The Chemical Age

A Weekly Journal Devoted to Industrial and Engineering Chemistry

VOL. XVIII. No. 460 APRIL 21, 1928 Prepaid Annual Subscription: United Kingdom, £1.1.0; Abroad, £1.4.0.

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NOTICES:—All communications relating to editorial matter should be addressed to the Editor, who will be pleased to consider articles or contributions dealing with modern chemical developments or suggestions bearing upon the advancement of the chemical industry in this country. Communications relating to advertisements or general matters should be addressed to the Manager.

The prepaid subscription to THE CHEMICAL AGE *is 21s. per annum for the United Kingdom, and 26s. abroad. Cheques, Money Orders and Postal Orders should be made payable to Benn Brothers, Ltd.*

Editorial and General Offices: Bouverie House, 154, Fleet Street, London, E.C.4.

Telegrams: "Allangas, Fleet, London." Telephone: City 0244

The Anglo-American Agreement

THE announcement made by Sir Alfred Mond last week of the formation of the Finance Company of Great Britain and America, Ltd., will be received with a sense of general satisfaction. The main parties to this agreement are, on the British side, Imperial Chemical Industries, Ltd., and on the American side the Chase Securities Corporation of New York, probably the most powerful group of financial interests in the United States. As in the case of the formation of Imperial Chemical Industries itself, the negotiations were successfully carried through and completed before the general public were aware of any such movement. The effect at once produced by the announcement was distinctly favourable, and fuller consideration of the possibilities has strengthened the original good impression.

There are several grounds on which this Anglo-American merger may be regarded in a favourable light. Its effect on the political and general relations of the two countries is bound to be good, because of the alliance of the powerful commercial and financial interests involved, and of the more intimate understanding and intercourse which its work must necessarily bring about. American official opinion in London is said to welcome the agreement. Apart from its general beneficial effects on international relations, it definitely disposes of the dangerous idea which was held and freely expressed by large chemical interests in the United States, such as the Chemical Foundation, that the existence of Imperial Chemical Industries and the large scale of its operations implied some vague menace towards America. A feeling of this kind, if allowed to develop, might have unfortunate results, and it is well that it should be finally dispersed by a definite commercial agreement of the importance of the one just reached.

Among commercial and chemical interests generally in this country the feeling is equally favourable. The United States for some time past has had more cash than can profitably be absorbed in its own industries, and it is natural that it should look for outlets outside its own borders. On the other hand, in this country, in Germany, and elsewhere, chemical research has for some time been exceedingly active, with the result that numbers of new processes have been worked out or are being strenuously investigated for the production of new industrial products or the better and cheaper manufacture of existing products. The linking up of the financial resources of the United States with the commercial, scientific, and technical resources of the great British company will enable important industrial projects to be developed to the great advantage of both sides. It should result in the stimulation of industry and lead to increased employment.

Comment has been made on the fact that no great chemical concern appears on the American board. A natural explanation is that the United States represents mainly the financial end of the bargain. But though there may be no direct representation of American industrial chemistry, it is well known that American banking interests are in closer touch with industry than British banking interests often are, and it is quite possible that the large financial interests concerned must in a general way include the interests of American chemistry.

It is understood that Sir Harry McGowan has been largely responsible for the success of the negotiations, and he and his immediate colleagues are to be congratulated on the result. As representing Nobel interests he has long been in close touch with large American concerns, and his frequent visits for many years have resulted in numerous personal friendships. As in the case of Imperial Chemical Industries, Sir Alfred Mond will be the chairman and Sir Harry McGowan the deputy chairman of the new corporation, and as members also of the American board or committee they will act as liaison officers between the American and the British sections. This important duty is thus in safe hands.

The scope before the new company, in view of its immense financial resources, its commercial organisa-

tion and experience, and the strength of its scientific and technical services, seems almost without limit. In chemical matters there may still be opportunities for further developments, but outside this field there is the possibility of immense consolidations in the fuel, steel, and other industries. Sir Alfred Mond has for some time taken an active interest both in the coal industry and in fuel technology generally, and if the impression is well founded that great technical advances have already been made in the production of liquid fuel from coal, we may shortly see developments of great importance.

The inclusion on the American side of the Bethlehem Steel Co. has already suggested the possibility of an international steel combine, and linked up with this are motor, locomotive, and railway organisations. It is also suggested that artificial silk, paper manufacture, wireless, and other matters may supply opportunities for large scale organisation of the kind contemplated. There is, in short, no limit to the field opened up by this new merger, and it is reassuring to know that the great international powers thus created will be controlled by men of unusual resource, ability, and imagination, and men also moved by the broad idea of making industry, in ever-increasing degree, serve the interests of mankind.

Industrial Co-operation Growing

By no means the least of Sir Alfred Mond's commercial activities is the valuable part he is taking in bringing the responsible heads of the great Labour organisations into direct co-operation with the great leaders of industry. The forces that are opposed to any rational understanding on these lines, preferring to tie themselves up in sterile formulas and catchwords, are happily losing their power, and the sane policy of class co-operation in substitution for class war is equally gaining ground. An encouraging example of the extent to which co-operation has already gone between what is known as the Representative Group of Employers and the General Council of the Trades Union Congress, is supplied in the agreed memorandum on the gold reserve and its relations to industry published this week.

The general purport of this memorandum is that greater elasticity of currency and credit is required in the interests of industry and commerce, and that credit policy should not be determined automatically by gold movements as in pre-war days. But even more significant than the particular proposals is the fact that this document bears the joint signatures of "Alfred Mond" and "Ben Turner." This asserts the important principle that Labour is no longer merely content to think about wages, but is accepting a direct joint responsibility for national industry and finance—which, of course, have a vital influence on wages in the long run. These joint conferences are obviously having two good results. They are giving the responsible heads of industry a more intimate understanding of the mind of Labour on the one side; on the other, they are giving Labour leaders an inside view of the problems and methods of large scale industrial organisation, and probably leading them to realise that the management of industry is not quite the selfish or easy thing it is so often taken to be. One can only wish well to these joint efforts towards the restoration of national industry and hope that their scope may continue to expand.

Chemical Trade Still Improving

THE Board of Trade returns for March fully confirm the signs apparent for some time past of a firm and progressive improvement in national trade. As compared with March of 1927, the imports of chemicals, drugs, dyes and colours for the past month have decreased £224,610, the exports have increased £122,157, and the re-exports have increased £7,042. Comparing the first quarter of this year with the first quarter of last year, chemical imports have decreased £393,274, chemical exports have increased £864,996, and chemical re-exports have increased £14,110. The recovery has been gradual and consistent, and there is every prospect of its continuance on sound lines.

Under the head of chemical manufactures, the most notable decreases in imports are coal tar products, from £154,704 to £22,395; crude glycerine, from £11,386 to £1,342; potassium compounds other than nitrate, from £153,226 to £100,510; sodium compounds other than nitrate, from £66,888 to £35,635; and miscellaneous chemicals, from £385,399 to £290,913. In the drugs section the largest decline is in quinine and quinine salts, from £20,235 to £12,970.

On the exports side, increases are fairly general. Sulphuric acid has gone up from £2,726 to £4,804, tartaric acid from £6,485 to £20,306, ammonium chloride from £6,002 to £12,071, and ammonium sulphate from £188,626 to £242,342, the increased exports going to Spain and the Canaries, to Dutch East Indies (an increase from £4,255 to £41,904), to British West Indies, and to countries not specified. The figures for coal tar products are practically stationary, potassium and sodium compounds are slightly down, and dyestuffs have improved from £68,027 to £80,724. The re-exports of miscellaneous chemicals have gone up from £9,495 to £22,484, which points to improvement in general merchanting.

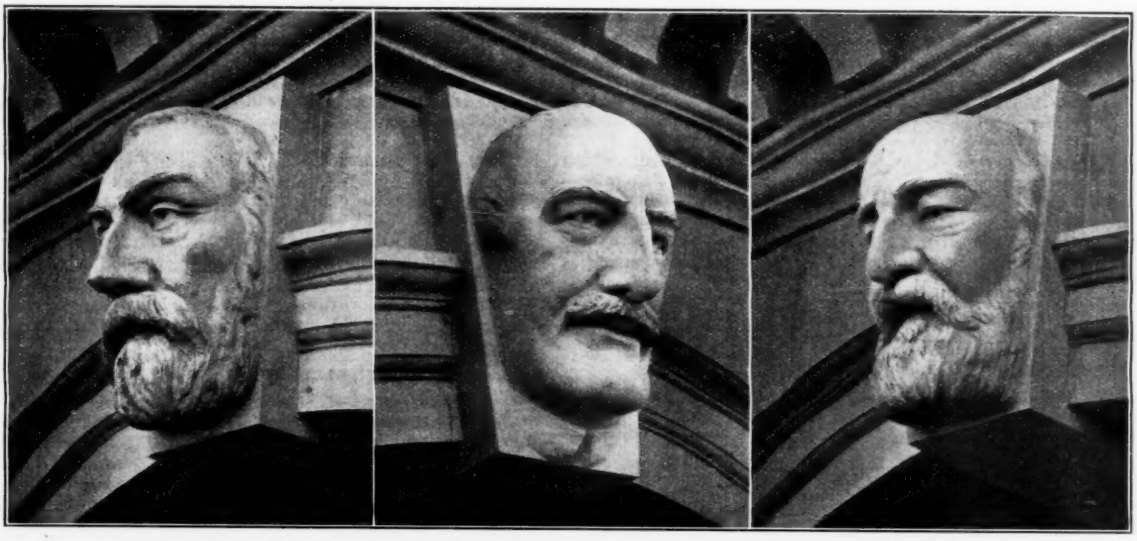
Books Received

REPORTS OF THE PROGRESS OF APPLIED CHEMISTRY. London: The Society of Chemical Industry. Pp. 742. 7s. 6d.

AN ELEMENTARY TEXT BOOK OF GENERAL MICROBOLOGY. By Ward Giltner. London: J. and A. Churchill. Pp. 470. 15s.

The Calendar

Aprl 21	North of England Institute of Mining and Mechanical Engineers: General Meeting. 2.30 p.m.	Newcastle-upon-Tyne
May 2	Society of Public Analysts.	Burlington House.
2	Royal Society of Arts: "Standardisation of the Elements of Scientific Apparatus, with Special Reference to Teaching." William Taylor. 8 p.m.	John Street, Adelphi, London.
3	Chemical Society. 8 p.m.	Burlington House, London.
8	Institute of Metals: Annual May Lecture. "The Chemical Properties of Crystals." Professor Cecil H. Desch. 8 p.m.	Storey's Gate, London, S.W.1.
8	Institution of Petroleum Technologists. 5.30 p.m.	John Street, Adelphi, London.
12	Bio-chemical Society. Inspection of the new Bio-chemical Department at the University. 11.45 a.m.	Birmingham.

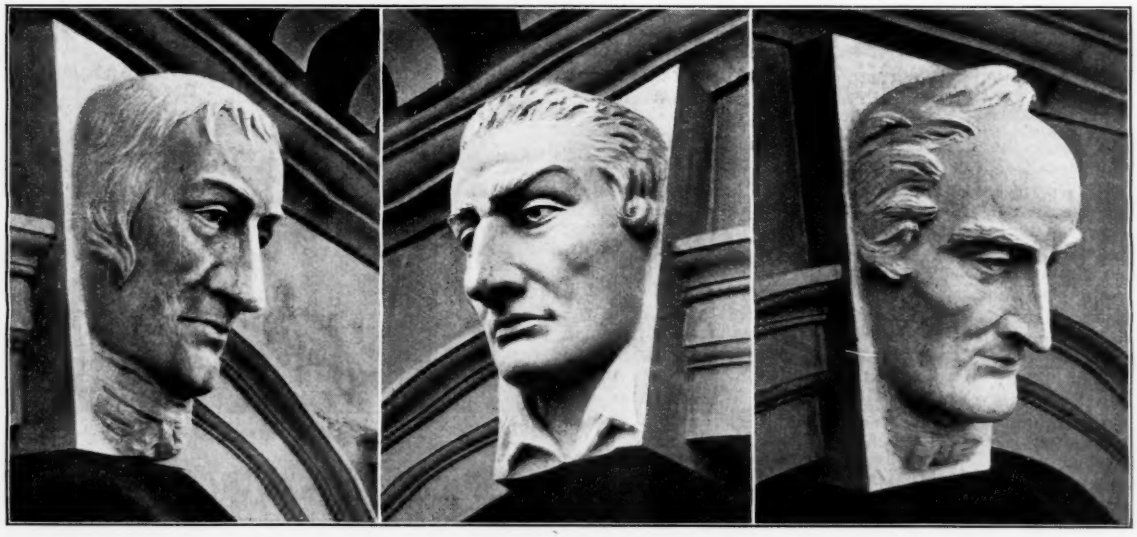


Sculptured Portraits on the New I.C.I. Building

A striking feature of the new Imperial Chemical Industries building on the Thames at Westminster is a series of portraits of eminent chemists and others associated with chemical industry, cut in stone and placed over a row of arches.

The upper illustration shows portraits (left to right) of Alfred Nobel (1833–1896), the Swedish inventor of dynamite, who endowed the Nobel Prizes and founded the British Dynamite Co., Ltd., the forerunner of Nobel Industries; Sir Alfred Mond, present chairman of Imperial Chemical Industries; and his father, Dr. Ludwig Mond (1839–1909), the joint founder, with the late Sir John Brunner, of the firm of Brunner, Mond, and Co.

The portraits shown in the lower group (left to right) are those of Joseph Priestley (1733–1804), the discoverer of oxygen; Antoine Laurent Lavoisier (1743–1794), who broke down the Phlogiston Theory and established chemistry on a quantitative basis; and Justus von Liebig (1803–1873), one of the founders of modern organic chemistry.

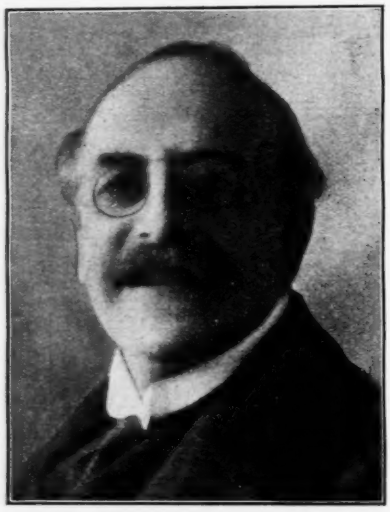


A Great Anglo-American Merger

International Enterprise of Imperial Chemical Industries

It was officially announced on Thursday, April 12, that the Finance Co. of Great Britain and America, Ltd., has been registered as a private company, with a capital of £2,040,000. Sir Alfred Mond is its chairman, and the 2,000,000 ordinary shares of £1 each will be held in equal proportions by Imperial Chemical Industries, Ltd., and the Chase Securities Corporation of New York. The object of the company is to facilitate closer and more intimate co-operation in the world of industry and commerce between Great Britain and America. There is to be no public issue of its shares.

THE Finance Co. of Great Britain and America, Ltd., which has been registered with a nominal capital of £2,040,000, divided into 2,000,000 ordinary shares of £1 each and 800,000 deferred shares of 1s. each, is a private limited company, the ordinary share capital of which will be held in equal proportions by Imperial Chemical Industries, Ltd., and the Chase Securities Corporation of New York. The deferred shares will, for the most part, also be similarly distributed.



SIR ALFRED MOND.

The board of the company will consist of Sir Alfred Mond, M.P., Sir Harry McGowan, Mr. Albert Henry Wiggin (Chairman of the Chase National Bank and Chase Securities Corporation), the Marquess of Reading, Lord Colwyn, Mr. Harold John Mitchell, Mr. Henry Mond, Mr. Clarence Graff, and Mr. James Henry Gannon (Vice-President of the Chase National Bank).

Sir Alfred Mond will be the chairman and Sir Harry McGowan the deputy-chairman of the new corporation, while Mr. Graff and Mr. Gannon will be its joint managing directors.

The American Committee.

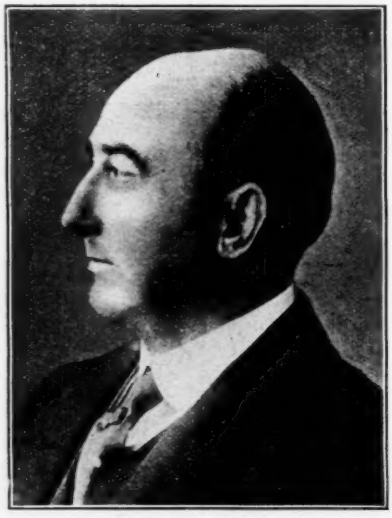
To assist the operations of the company an American committee has been formed under the chairmanship of Mr. A. H. Wiggin to act in close consultation and co-operation with the British directors. The American committee is as follows:—Mr. Albert H. Wiggin (Chairman of the Chase National Bank of New York); Sir Alfred Mond, M.P. (Chairman of Imperial Chemical Industries, Ltd.); Sir Harry McGowan (President and Deputy Chairman of Imperial Chemical Industries, Ltd.); Mr. Robert L. Clarkson (President of the Chase National Bank of New York); Mr. Halstead G. Freeman (President of the Chase Securities Corporation); Mr. Alfred P. Sloan, junr. (President of the General Motors Corporation, Detroit, Michigan); Mr. John Rascob (Chairman of the Finance Committee and Vice-President of the General Motors Corporation, Detroit, Michigan); Mr. Matthew C. Brush (President of the American International Corporation, New York City); Mr. W. H. Woodin (President of the American Car and Foundry Co., New York, Chairman of the Board and President of the American Locomotive Co., New York); Mr. A. R. Graustein (President of the International Paper Co., New York City); Mr. J. Horace Harding (Chairman of the Board of the American Railway Express Co., New York City); Mr. Frederick H. Ecker (Vice-President, of the Metropolitan Life Insurance Co., New York City); and Mr. Charles M. Schwab (Chairman of the Bethlehem Steel Co.).

Sir Alfred Mond and Sir Harry McGowan, as members of the American Committee, provide a liason between the board of directors and the American Committee. The personnel of the American Committee is probably unique in the history of financial corporations, including, as it does, the most important leaders of finance and industry in the United States.

Statement by Sir Alfred Mond

"The inception of this corporation," Sir Alfred Mond states, "has been a necessity felt for some time by the leading men of business in both countries for closer and more intimate co-operation in the world of industry and commerce between America and Great Britain. The increasing volume of capital investments of American interests outside the borders of the United States and on the Continent of Europe has often been commented upon, and is a new feature in financial centres since the war. This feature is likely to continue, and large sums will be available in the future. The desire to direct these into the most profitable channels has led to the idea of systematic and continuous co-operation of leading financial and industrial brains of both countries for the development of industries either already established, or of new ideas which are daily brought forward."

It is not intended to restrict operations to the two countries mentioned. The new company will also provide facilities for commercial and industrial financing on the Continent of Europe, throughout the British Empire, and elsewhere. Such facilities will take the form of taking an active interest in already established institutions, and also in the initiation of new processes or new enterprises. The company, in this respect, will work in conjunction with other financial groups in Europe. "Those of us engaged in big industrial undertakings," added Sir Alfred, "are continually having brought to our notice enterprises, both industrial and commercial, in all parts of the world, which, in their technical supervision and organisation, are capable of great and considerable development." It is in the assistance, and, possibly in cases, the reorganisation of such enterprises that Imperial



SIR HARRY MCGOWAN.

Chemical Industries is especially well suited to take a leading part.

It has long been the practice among German banking houses to have large staffs of technical experts employed in an advisory capacity. This has not been the practice in Great Britain. There are quite a number of firms established both here and in the United States which co-operate in the financing of big enterprises, but their operations are restricted, and none have at their disposal the necessary technical advisors.

Imperial Chemical Industries, Ltd., is especially well situated owing to its world-wide manufacture; its trade operations, contracts and resources; the knowledge of its board in industrial and financial matters; and its highly scientific and technical staff, to take a lead in such a movement in Great Britain, the Empire and Europe. In the same way, the personnel of the American Committee will provide an affiliated group of financial and industrial leaders of a most authoritative character.

The new corporation will provide facilities for commercial and industrial financing in the British Empire, Europe and the United States in co-operation between English and American interests, and will develop contracts for the purpose of international industrial development.

With regard to co-operation, Sir Alfred pointed out that there are set up from time to time in this country, branches of United States institutions to carry through one set of transactions. The new company will not be of so temporary a nature, but will maintain "intimate, close, almost daily, co-operation between both sides of the Atlantic."

The American Corporation.

The Chase Securities Corporation is an integral branch of the Chase National Bank, which has a very large number of branch banks throughout the United States. Through this connection there is opened up an avenue of approach to a large volume of United States capital.

In the same way, there is known to be a large amount of British money waiting to be placed in the United States. Sir Alfred estimates that in this country there is yearly some £300,000,000 available for investment in industrial enterprise, and is hopeful that a large proportion of it will flow through the channels that have now been created.

As to the exact nature of the new company's early operations, it is not possible to make any statement, but Sir Alfred believes that it may quite possibly have important effects upon the future reorganisation of industry. Especially so, as the co-operators in the United States have experience which they can pass on with regard to the handling of comprehensive industrial reorganisations. One direction along which attention may be directed, said Sir Alfred, is that of amalgamations within the steel industry. Although it is intended that the scope of the new company shall be international, Sir Alfred insisted that "as long as I am chairman of this company, I don't think I shall let any of its money go into Russia."

It is not intended to enter the field of Government or Municipal loan financing. The company will probably take its share of underwriting, and take up and develop new ideas, and, when proved and demonstrated, find capital with which to develop them. "I am not troubling about the amount of money behind us," said Sir Alfred. "I am perfectly confident about that." It must be understood, however, that the public will not be invited to subscribe new capital for the company. There is no issue to be made, and the shares will not be placed on the market. They may, however, be exchanged among the members of the company.

The temporary offices of the corporation are at 14, Cornhill, London, E.C.3.

Registration Details

The registration details at Somerset House show that the company is a private one and that the nominal capital is £2,040,000 in 2,000,000 £1 ordinary and 800,000 1s. deferred shares. The ordinary rank first for a preferential dividend of 8 per cent. per annum (non-cumulative until January 1, 1931, but cumulative thereafter), and the deferred rank next for a non-cumulative dividend of 50 per cent. per annum.

Of any balance distributed in any year after paying these dividends, three-quarters is to go to the ordinary and one-quarter to the deferred shareholders. Other details are given on p. 376.

Oil and Colour Chemists' Meeting

Paper on False Equilibria

Mr. C. A. Klein (president) was in the chair at a meeting of the Oil and Colour Chemists' Association at the Institute of Chemistry, London, on Thursday, April 12. Referring to the death of Mr. A. Seymour Jennings, the president said this would leave a big gap in the trade. So far as the Association was concerned, there was no one more loyal than Mr. Jennings, who had come over from the old Paint and Varnish Society when it was taken over by the Oil and Colour Chemists' Association. Mr. Jennings had rendered great service to the Paint and Varnish Society and since the amalgamation he had worked quietly but very effectively in the interests of the Association. He asked those present to honour the memory of one of the Association's stauchest supporters by standing in silence for a few moments. This having been done, the president mentioned that the Council had already expressed on behalf of the Association its deep sympathy with the relatives.

The following paper was then read: "False Equilibria, with Special Reference to Rosin Solutions and Gold Size," by R. P. L. Britton. Mr. Britton said that the following definition explained the principle underlying the questions discussed in his paper: If a substance attained equilibrium in one set of conditions of temperature, concentration and pressure, and then the conditions were altered, the substance would or would not attain equilibrium according to the rapidity with which its energy content adjusted itself to the new conditions. Mobile or fluid substances, in which the molecules were unrestrained, would adjust themselves quickly, but viscous substances would tend to lag. In the new set of conditions, if the viscosity were greater, as will usually be the case for materials cooling, the change to the stable state would take place so slowly as to make the substance appear to be in equilibrium under the new set of conditions. He went on to discuss these "false equilibria" in connection with rosin and gold size, dealing with the crystallisation of rosin solutions, the "footing" of gold size, etc.

Contributions to the discussion which followed the reading of the paper were made by the president, Mr. A. A. Drummond, Mr. S. S. Woolf, Mr. J. C. Smith, Dr. J. O. Cutter, Dr. J. J. Fox, Mr. H. L. Howard, and Mr. T. Hedley Barry, and Mr. Britton replied.

Paint and Varnish Research Laboratory

An interesting gathering of the members of the Research Association of British Paint, Varnish and Colour Manufacturers took place at the Laboratories of the Association at Waldegrave Road, Teddington, Middlesex, on Wednesday. The laboratories were officially opened on September 21 of last year by Dr. Weidlein, the head of the Mellon Research Institute of Philadephia. At the meeting on Wednesday a lecture was given by Mr. R. A. Coolahan, B.A., upon "Cellulose Lacquers," which was illustrated by a short cinema film.

After the lecture a tour of the laboratories was made. It was soon apparent that considerable development had taken place since last September. A useful extension has been made by adding rooms for colorimetry, constant temperature, and humidity, and for the testing of paint and varnish films by accelerated methods. In addition, a small open laboratory has been built to accommodate varnish and oil treating plants. This should prove of great value in the examination of these and like products. Demonstrations were given of the investigations in hand. It is quite clear that this laboratory is rapidly becoming of first-class importance to the industry, and promises in time to become the chief centre of new developments.

There was a large attendance in the evening at the annual dinner of the Oil and Colour Chemists' Association at the Hotel Cecil, London. Mr. C. A. Klein presided, and there were many distinguished guests. Lord Askwith proposed the toast of the Association and the Chairman responded. Both spoke of the good work done in the ten years of the Association's existence, and indicated the large possibilities of the future. The toast of the guests was proposed by Dr. Houlston Morgan and acknowledged by Sir Robert Robertson (Government Chemist) and Mr. J. Russell Thornberry (President of the National Federation of Associated Paint, Colour, and Varnish Manufacturers).

Chemical Trade Returns for March

Position Still Improving

THE Board of Trade Returns for March, 1928, indicate that total imports of chemicals, drugs, dyes, and colours during the month were valued at £1,445,015, a decrease of £224,610 on 1927 and of £20,924 on 1926; exports were valued at £2,258,774, an increase of £122,157 on 1927, and a decrease of £47,055 on 1926; while re-exports of imported merchandise were valued at £74,918, an increase of £7,042 on 1927, and a decrease of £31,237 on 1926. For the three months ended March 31, 1928, imports were valued at £3,943,319, a decrease of £393,274 on 1927, and an increase of £163,129 on 1926; exports were valued at £6,326,724, an increase of £864,996 on 1927 and of £147,195 on 1926; while re-exports were valued at £221,699, an increase of £14,110 on 1927, and a decrease of £84,024 on 1926. The detailed returns are as follows:—

Imports

	Quantities Month ended March 31.		Values Month ended March 31.	
	1927.	1928.	1927.	1928.
			£	£
CHEMICAL MANUFACTURES AND PRODUCTS—				
Acid Acetic .....tons	1,035	1,406	43,655	59,667
Acid Tartaric.....cwt.	5,102	5,480	24,430	34,429
Bleaching Materials ,,	10,288	17,421	6,044	13,239
Borax..... ,,	6,143	4,690	6,868	5,174
Calcium Carbide.... ,,	72,655	61,100	50,929	38,171
Coal Tar Products, not elsewhere specified value	—	—	154,704	22,395
Glycerine Crude ...cwt.	2,952	442	11,386	1,342
Glycerine Distilled ,,	86	1,164	350	3,944
Red Lead and Orange Lead .....cwt.	4,675	2,936	8,306	4,161
Nickel Oxide .... ,,	109	254	509	1,186
Potassium Nitrate (Saltpetre) .....cwt.	10,023	15,013	11,255	16,453
Other Potassium Compounds .....cwt.	616,531	317,843	153,226	100,510
Sodium Nitrate .. ,,	223,263	276,576	143,840	147,939
Other Sodium Compounds ..... ,,	97,956	54,015	66,888	35,635
Tartar, Cream of .. ,,	4,578	4,262	17,350	17,318
Zinc Oxide .....tons	866	1,125	28,708	34,585
All other Sorts ...value	—	—	385,399	290,913
DRUGS, MEDICINES, ETC.—				
Quinine and Quinine Salts .....oz.	241,755	177,519	20,235	12,970
Bark Cinchona, etc. cwt.	678	1,880	3,163	8,752
Other Sorts .....value	—	—	124,039	132,635
DYES & DYESTUFFS, ETC.—				
Intermediate Coal Tar Products.....cwt.	—	10	—	103
Alizarine ..... ,,	132	119	3,891	5,171
Indigo, Synthetic . ,,	—	—	—	—
Other Sorts ..... ,,	3,770	3,401	92,798	86,224
Cutch ..... ,,	5,819	5,315	9,559	9,005
Other Dyeing Extracts ,,	4,634	3,644	16,860	10,836
Indigo, Natural ... ,,	—	71	—	1,698
Extracts for Tanning ,,	130,854	155,787	121,105	169,361
PAINTERS' COLOURS AND MATERIALS—				
Barytes, Ground, and Blanc Fixe ... cwt.	69,054	64,983	15,423	15,280
White Lead (dry) . ,,	14,169	15,402	24,609	22,614
All Other Sorts .... ,,	83,235	88,467	124,096	143,305
Total of Chemicals, Drugs, Dyes, and Colours .....value	—	—	1,669,625	1,445,015

Exports

CHEMICAL MANUFACTURES AND PRODUCTS—				
Acid Sulphuric ....cwt.	1,922	14,471	2,726	4,804
Acid Tartaric .... ,,	1,093	3,012	6,485	20,306
Ammonium Chloride (Muriate) ..... tons	244	625	6,003	12,071
AMMONIUM SULPHATE—				
To Spain and Canaries tons	3,511	4,423	39,096	45,346
,, Italy..... ,,	604	127	6,857	1,291
,, Dutch East Indies tons	369	3,966	4,255	41,904
,, Japan ..... ,,	7,454	7,001	86,687	72,459
,, British West India Islands & British Guiana tons	274	864	3,451	8,839
,,Other Countries ,,	4,382	7,177	48,280	72,503
Total ..... ,,	16,594	23,558	188,626	242,342

	Quantities. Month ended March 31		Value. Month ended March 31	
	1927.	1928,	1927.	1928,
			£	£
Bleaching Powder (Chloride of Lime) .....cwt.	41,641	42,019	19,354	15,338
COAL TAR PRODUCTS—				
Anthracene ..... cwt.	—	—	—	—
Benzol and Toluol galls.	3,066	5,100	544	481
Carbolic Acid .... cwt.	13,350	30,334	26,579	55,038
Naphtha ..... galls.	2,797	6,703	343	463
Naphthalene .... cwt.	1,303	2,713	755	1,090
Tar, Oil, Creosote Oil, etc. .....galls.	3,955,677	2,476,914	132,523	91,464
Other Sorts .....cwt.	35,127	102,274	27,417	41,159
Total .....value	—	—	188,161	189,695
Copper, Sulphate of ..tons	6,245	11,144	134,969	255,947
DISINFECTANTS, ETC., cwt.	34,390	38,094	79,674	91,786
GLYCERINE, Crude .. ,,	3,573	5,397	10,780	17,149
Glycerine Distilled .. ,,	12,433	14,828	62,413	59,344
Total .... ,,	16,006	20,225	73,193	76,493
POTASSIUM COMPOUNDS—				
Chromate and Bi-chromate ..... cwt.	2,363	3,166	4,196	5,466
Nitrate (Saltpetre) ,,	1,831	1,478	3,476	2,800
Other Sorts ..... ,,	5,057	5,211	18,431	11,605
Total ..... ,,	9,251	9,855	26,103	19,871
SODIUM COMPOUNDS—				
Carbonate .....cwt.	607,398	490,710	182,072	132,625
Caustic ..... ,,	206,810	206,233	152,781	138,012
Chromate and Bi-Chromate ..... cwt.	2,222	4,325	3,098	5,835
Sulphate, including Salt Cake ..... cwt.	23,698	32,959	3,916	5,360
Other Sorts ..... ,,	58,585	76,278	58,047	83,569
Total ..... ,,	898,713	810,505	399,914	365,401
Zinc Oxide.....tons	69	136	2,889	5,798
Other Sorts ..... value	—	—	295,053	295,124
Total of Chemical Manufactures and Products.. value	—	—	1,423,150	1,594,976
DRUGS, MEDICINES, ETC.—				
Quinine and Quinine Salts..... oz.	191,727	105,246	19,834	10,741
Other Sorts ..... value	—	—	243,358	233,596
Total ..... ,,	—	—	263,192	244,337
DYES AND DYESTUFFS—				
Products of Coal Tar cwt.	7,067	9,966	58,280	71,092
Other Sorts ..... ,,	8,607	10,121	9,747	9,632
Total ..... ,,	15,674	20,087	68,027	80,724
PAINTERS' COLOURS AND MATERIALS—				
Barytes, Ground, and Blanc Fixe ..... cwt.	5,130	3,233	1,950	1,373
White Lead (dry) . ,,	4,211	4,203	8,365	7,801
Paints and Colours in Paste form ..... cwt.	54,692	52,164	124,996	104,374
Paints and Enamels Prepared .....cwt.	37,751	37,981	127,457	119,557
Other Sorts ..... ,,	56,556	61,280	119,480	105,632
Total ..... ,,	158,340	158,861	382,248	338,737
Total of Chemicals, Dyes, Drugs, and Colours ... value	—	—	2,136,617	2,258,774

Re-Exports

	Quantities. Month ended March 31		Value. Month ended March 31	
	1927.	1928.	1927.	1928.
CHEMICAL MANUFACTURES AND PRODUCTS—			£	£
Acid Tartaric .... cwt.	116	99	757	803
Borax ..... ,,	730	1,620	790	2,159
Coal Tar Products.value	—	—	6	395
Potassium Nitrate (Saltpetre) ..... cwt.	143	112	204	158
Sodium Nitrate ... ,,	1,352	1,256	843	798
Tartar, Cream of .. ,,	784	679	3,046	3,165
Other Sorts .....value	—	—	9,495	22,484
DRUGS, MEDICINES, ETC.—				
Quinine and Quinine Salts .....oz.	6,651	10,432	865	1,024
Bark Cinchona, etc. cwt.	268	154	1,173	634
Other Sorts .....value	—	—	36,832	31,625
DYES AND DYESTUFFS—				
Cutch .....cwt.	1,427	1,984	2,247	3,079
Other Sorts ..... ,,	145	122	1,138	486
Indigo, Natural ... ,,	28	7	555	172
Extracts for Tanning ,,	657	1,033	1,036	1,210
PAINTERS' COLOURS AND MATERIALS— cwt.	2,555	1,930	7,774	5,943
Total of Chemicals, Drugs, Dyes and Colours ... value	—	—	67,876	74,918

Reconstituted Cream

Use on Increased Scale

INVESTIGATIONS are being carried out by the Ministry of Health into the question of distinguishing between real and synthetic or reconstituted cream. The sale of the latter, it is stated, has increased considerably since the order prohibiting the use of preservatives in cream came into force on January 1. Certain creamery interests have been requesting the Ministry to withdraw the order on the ground that huge losses are being incurred on sourages. Many bakers, confectioners and others, it is pointed out, are unwilling to take the risk of cream becoming sour, and are using the synthetic variety, which is made from butter, powdered milk and water. So closely does it resemble natural cream both in appearance and taste that the average consumer cannot tell the difference.

The Ministry of Health apparently has no intention of withdrawing the order concerning preservatives. It was made in the interests of public health, and will remain in operation for that reason. Further, Sir Kingsley Wood, Parliamentary Secretary to the Ministry, dissents from the view that the increased use of emulsifiers is caused by the order. The view of the Ministry is that the sale of synthetic cream is increasing, not because natural cream is sold without preservatives—the prohibition applying equally to both varieties—but because the synthetic cream is said to be prepared at a much lower cost than natural cream.

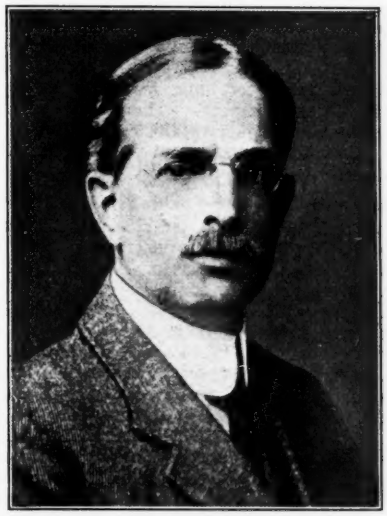
The Preservatives Order

An official of the Ministry of Agriculture stated that reconstituted cream had come to stay, and that it was only a coincidence that the simple machinery for making it—machines that hotels, ships and caterers are now employing to supply their requirements—had come into general use concurrently with the making of the order. The actual date of the order was August 4, 1925, it was pointed out, so that creamery concerns had over two years' notice. If they had utilised that time in improving methods of manufacture and transport, and had taken care that only sound milk was used for conversion into cream, there would be no need for them to agitate now. For the last five years one large firm of London caterers had not, it was said, sold any cream with preservatives in it. A member of the firm of J. Lyons and Co., Ltd., said that the order had caused them no difficulty whatever. Churns of cream found unsatisfactory were at once rejected, while the others were kept in cold storage both at the factory and in the shops.

British dairy farmers are fully in support of the prohibition order. Home-made cream is obviously less likely to deteriorate than that which is imported. The British Dairy Farmers' Association recently passed a resolution stating that "this Council, having been made aware that attempts are being made to secure the cancellation or modification of the Cream (Prohibition of Preservatives) Order, and being of opinion that its maintenance is in the best interests of the British dairy farmer, respectfully requests the Government to maintain the order in its present form until it has been in operation for at least a full year. The Council further urges the Government to undertake immediate steps to enable them to enforce the declaration of reconstituted cream as such at all stages in its sale as distinguished from natural cream."

Death of Professor T. W. Richards

THE death occurred on April 2 of Professor Theodore William Richards, of Harvard University, U.S.A., at the age of 60. Professor Richards, who was a very eminent authority on atomic weights, had been professor of chemistry at Harvard since 1901, and director of the Wolcott Gibbs Memorial Laboratory of the University since 1912. With the help of assistants he revised the atomic weights of oxygen, copper, barium, strontium, calcium, zinc, magnesium, iron, nickel, cobalt, uranium, cæsium, sodium, chlorine, potassium, nitrogen, silver, sulphur, carbon, lithium, radioactive lead, gallium, and aluminium. He also did much other research on physical and inorganic chemistry, his published papers numbering about 300, including work dealing with thermochemistry, electrochemistry, and the compressibilities of the elements (in which property he showed the existence of a periodicity). He was awarded the Nobel Prize for Chemistry in 1914, and had also been the recipient of numerous other medals and awards, while he was elected to honorary membership of learned societies in almost every country in the world. He was Davy Medallist of the Royal Society in 1910; Faraday Lecturer and Medallist of the Chemical Society in 1911; a foreign member of the Royal Society; an honorary fellow of the Chemical Society and of the Royal Society of Edinburgh; an honorary member of the Royal Institution of Great Britain and of the Royal Irish Academy; and an honorary Doctor of Science of the Universities of Oxford, Cambridge, and Manchester. He was president of the American Chemical Society in 1914, and a member of international commissions on atomic weights and other bodies.



PROFESSOR T. W. RICHARDS, FOR. MEM. R.S.

Exemptions from Key Industry Duty

THE Treasury have made an Order under Section 10 (5) of the Finance Act, 1926, exempting the following articles from Key Industry duty from April 13, 1928, to December 31, 1928:—Acid hydrocyanic anhydrous; acid lactic which satifies the requirements of the British Pharmacopœia; metaldehyde; methyl chloride; R. potassium chlorate; and synthalin. The Treasury Order will shortly be published by the Stationery Office.

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The Building Trades Exhibition

Paints, Cements, and Asbestos Products

MANY firms well known in the chemical world have displays, chiefly of cement and asbestos products, waterproofing compounds, paints, and cellulose lacquers and enamels, at the Building Trades Exhibition, which was opened at Olympia, London, on Friday, April 13. Occupying the centre of the New Hall the stand of Bell's Poilite and Everite Co., Ltd., shows to advantage the various uses to which Bell's decorated Poilite may be put. This material is shown for use in interior and exterior wall panelling, and for flooring. A model bathroom and a shop window indicate the wide range of the material. A pavilion erected by the British Fibrocement Works, Ltd. is also designed to show the uses of asbestos cement slates, sheets and corrugated sheeting. The building materials department of Honeywill Brothers, Ltd., in the Gallery of the Main Hall, is exhibiting a number of Canadian products for which they are British agents. These include "Gyproc" fireproof wall board and Mollith asbestos cement.

Among the firms showing large displays of cement and concrete are the Cement Marketing Co., Ltd., and the Portland Cement Selling and Distributing Co., Ltd., who demonstrate a compound testing machine for testing the tensile strengths of briquettes of various ages. The Lafarge Aluminous Cement Co., Ltd. show various grades of quick settling cement.

The exhibit of the Building Research Station is designed to show the work of the station in regard to testing building materials, and exhibits are on view showing the progress of investigation on slag, breezes, and clinkers as concrete aggregates, testing methods for limes and plasters, and adhesion stresses in reinforced concrete. There are also on view the results of numerous tests into the estimation of liability of materials to chemical attack from polluted atmosphere, and moisture absorption and permeability tests.

Paints and Cellulose Varnishes and Enamels

Paints, varnishes, cellulose paints, enamels, and lacquers were, of course, displayed in profusion, one of the most interesting stands being that of Naylor Brothers (London), Ltd. On this stand are shown a complete range of Nobel-Naylor Finishes, including distempers, stains, imitation stone paints, as well as samples of paints of the Melanoid type. A number of wall papers, such as P.V. leather cloth wallpapers, and leather substitute materials, are also shown. Burt, Boulton and Haywood, Ltd., show many of their well-known Silvertown paints, enamels, and wood preservatives. Hadfields (Merton), Ltd., the well-known paint and varnish makers, show many panels of "Durulose" and "He-o-lin" enamels and paints. A new odourless cellulose paint is shown by Bartley and Smith, Ltd., and other cellulose paint makers include Rapoloid, and Ripolin, Ltd. In the wood preservative line the Powell Duffryn Steam Coal Co., Ltd. display a new material, "Presotim," and the Hewitt Construction Syndicate, Ltd. show their well-known "Fort" products. Spraying apparatus for paints is shown by the Four Oaks Spraying Machine Co., Ltd. and Aerostyle, Ltd. The Pragos Engineering Co., Ltd. show an automatic proportioning and mixing machine for the brick-making industry. Automatic cellar drainage systems are illustrated on the stand of W. H. Willcox and Co., Ltd. The modern advance in rubber floor production is well-illustrated on the stand of the Rubber Growers' Association. The Gas Light and Coke Co., Ltd. illustrate the use of gas for heating and lighting in different types of buildings. The exhibition closes on April 26.

Nitrogen Conference: American Companies Invited

FOR the International Nitrogen Conference, to be held in May on board the North German Lloyd steamer *Lutzow*, invitations have been sent to the European representatives of the U.S. Department of Commerce, and executives of the du Pont Co., the American Cyanamid Co., the Allied Chemical Co., and the Synthetic Nitrogen Corporation. As has been announced previously, representatives of British, German, Italian, Scandinavian, French and Chilean nitrogen interests will be present. Papers will be read by Dr. J. Bueb, Sir Frederick Keeble, and Messrs. F. C. O. Speyer, L. Bretignière, H. Warmbold, A. Demolon, E. Baur, H. J. Page, T. H. J. Carroll, and J. Galland.

Chemical Matters in Parliament

Dyestuffs Imports

IN answer to a question by Mr. Fenby (House of Commons, April 17), Sir P. Cunliffe-Lister (President of the Board of Trade) stated that the total imports of manufactured dyestuffs, dyeing extracts, painters' colours and materials (including intermediate coal-tar products but excluding zinc oxide) amounted in 1926 to 107,000 tons, valued at £3,057,000, and in 1927 to 107,000 tons, valued at £3,170,000. The proportion admitted under licence was about 2 per cent. by quantity and 30 per cent. by value. In 1926, 5,778 licences were issued under the Dyestuffs (Import Regulation) Act for the importation of 1,889 tons of material, valued at £945,007, and in 1927 6,753 licences were issued for the importation of 2,228 tons, valued at £1,034,103. The fees charged were £3,006 in 1926 and £3,440 in 1927.

Leather Industry Research

Address by Dr. R. H. Pickard

AT a meeting of the Manchester Section of the Society of Chemical Industry, on Friday, April 13, Dr. R. H. Pickard, F.R.S., Director of Research to the British Cotton Industry Research Association, gave a lecture entitled "Fundamental Researches in the Leather Industry." Mr. L. Guy Radcliffe presided.

Dr. Pickard said that his object in delivering the lecture was two-fold, first, to give some idea of the complexity of the problems which concerned the chemist in the leather industry, and, secondly, to present some idea of the modern trend of research as applied to the problems of the industry. The chemist in the leather trade might be described as being a chemist in leading-strings. He had to deal with a material which contained a variety of chemical compounds of very indefinite or unknown composition but with certain well-understood characteristics. He had to submit the material to a succession of chemical processes, and in no one instance could his employer permit him to allow any reaction to proceed to completion as regards the material.

The lecturer then discussed the different varieties of hides and skins which formed the raw material of the leather industry, outlining the present state of our knowledge of their chemical constitution. He dealt next with the various processes of tanning, and the changes undergone by the material during these processes. He touched on the discovery during the last few years of the network of protein known as reticulum, which gave toughness and durability to leather.

Artificial Silk Developments

CONTROL of the Tomaszow Artificial Silk Factories in Poland, formerly in the hands of Snia Viscosa, has been acquired by an international consortium which includes S. Japhet and Co., London, the International Holding and Finance Corporation, London, Hall Garten and Co., New York, and Lazard Speyer-Ellisen, of Frankfort.—Acetate silk factories are to be built by the American Chatillon Co. in Georgia, and by the Dutch Enka Co. at Nymegen, in Holland.—Mr. Alfred Loewenstein, the Belgian financier, announced in Brussels, on Monday, the establishment in Belgium of a Belgo-Canadian financial company with a capital of 100,000,000 frs., which will constitute a link between Belgian shareholders and Canadian companies. He also confirmed the fact that the International Holding and Investment Co. no longer held an interest in British Celanese or Sidro. It was principally interested in the Soieries Tubize.—The following estimate of the world's production of artificial silk is given by the New York Trust Co. (figures refer to weight in million lbs.): United States, 1927, 74·0; 1924, 38·6; 1913, 1·54.—Italy, 1927, 39·6; 1924, 17·6; 1913, 0·33.—Germany, 1927, 29·7; 1924, 23·1; 1913, 7·7.—United Kingdom, 1927, 27·5; 1924, 24·2; 1913, 6.6.—France, 1927, 19·8; 1924, 13·2; 1913, 3·3.—Belgium, 1927, 16·5; 1924, 8·8; 1913, 2·86.—Holland, 1927, 14·3; 1924, 4.4; 1913, nil.—Other countries, 1927, 28·6; 1924, 12·1; 1913, 1·87. The total production of the whole world was in 1927, 250,000,000 lbs.; in 1924, 142,000,000 lbs.; and in 1913, 24,200,000 lbs.—A meeting of the Drapers' Chamber of Trade in London on Tuesday, decided to recommend the adoption of the name "rayon" for artificial silk.

From Week to Week

SIR HARRY MCGOWAN, who has been ill, is reported to be making good progress.

THE MOND NICKEL CO., LTD., has given £500 to the Lord Mayors' Fund for the relief of distress in the coalfields.

THE SAFETY IN MINES LABORATORY is now nearing completion at Sheffield University and may possibly be opened by the Duke of York.

MR. CLAUDE DE BERNALES, of Perth, has acquired the exclusive rights for Australia of the Dvorkovitz system of low-temperature carbonisation of coal.

PROFESSOR MAX BODENSTEIN, of the University of Berlin, will deliver a series of lectures on "Chemical Kinetics" at University College, London, on May 31, June 1 and 4.

NINE BEDS OF POTASH of possible commercial interest within 1,500 feet of the surface are reported to have been discovered by the United States Geological Survey in Eddy County, New Mexico.

AN ADDRESS on the "New Spirit in Industry and Its Effect on Empire Trade" is to be given by Sir Alfred Mond at the luncheon of the Royal Colonial Institute at the Cannon Street Hotel on Tuesday, April 24.

THE CHEMICAL TRADE SECTION of the London Chamber of Commerce, in the annual report of the Council for 1927, states that the translation into Chinese of the British Pharmacopœia has been completed and the work published.

THE BRITISH ASSOCIATION for the Advancement of Science has been informed that the King in Council has been pleased to approve the grant of a charter to the Association in accordance with the petition made by the president, Sir Arthur Keith, and the general officers in January last.

THE CHILEAN GOVERNMENT has announced that, after examination of the production costs and prevailing conditions of the nitrate markets, it will not reduce during the years 1928 and 1929 the existing export tax. It declares that it will co-operate in the reorganisation and development of the production and sale of nitrate.

M. LUNDGREN, of the Swedish Cellulose Union, has given a denial, "as far at any rate as Sweden is concerned," to the report in a German newspaper that the paper pulp mills of Germany, Sweden, and Finland are negotiating an international agreement. A denial was also given to a report of similar negotiations between Germany, Sweden, and Czechoslovakia.

THE INSTITUTE OF GAS ENGINEERS, at a recent special meeting, unanimously passed the terms of the petition, charter, and by-laws for submission to H.M. Privy Council. It is hoped that the first annual meeting under the Royal Charter will be held at Cardiff under the presidency of Mr. H. Dacre Madden, opening on June 12, on which day H.R.H. the Prince of Wales, first hon. life member of the Chartered Institution, will be visiting Cardiff.

RECENT WILLS INCLUDE.—Mr. Thomas Rusholme Dickinson, £21,727, of which he left £10,000 to the University of Sheffield for the promotion of higher education, with reference to science and technology.—Mr. Alexander Miscampbell, chairman of the Salt Union, Ltd., £13,483.—Mr. Thomas James Thomson, London manager of Lever Brothers, Ltd., £4,868.—Mr. Frederick Shaw, of Shipley, director of the Bradford Dyer's Association, £118,884.

THE THIRD CONFERENCE in connection with the Joint Committee of Leather Chemists and Manufacturers will be held in London on Wednesday, April 25, at the Leathersellers' Hall. There will be a morning and afternoon session of the conference. Papers of interest to chemists which will be presented include "Dyestuffs, with Special Reference to Fastness to Light of Colours," by Mr. Herndl, and "Some Remarks on the Tanning Industry in East India," by Mr. J. Wright Henderson.

PROFESSOR FICHTER will deliver seven lectures on "Electrochemistry" at the University of Birmingham, on May 8, 10, 11, 14, 15, 17, and 18, at 5.30 p.m. The subjects to be dealt with are as follows: Electrochemical Oxidation of Aromatic Hydrocarbons; Electrochemical Preparation of Vanillin, Saccharine, and Dyestuffs; Electrochemistry and Biochemistry; Kolbe's Synthesis of Hydrocarbons; Kolbe's Synthesis and Related Reactions; Action of Fluorine on Inorganic and Organic Compounds; History and Development of Chemical Industries in Switzerland.

MEMBERS OF THE YORK ROTARY CLUB met on Friday, April 13, to hear an address by Mr. Gilbert Johnson, on "Chemical Warfare." In the course of his address Mr. Johnson pointed out that, in the Great War, there were 150,000 casualties in the British Army from mustard gas, and that of these one in forty died and one in two hundred was rendered permanently unfit. Twenty-five poisonous gases were used in the war, and these could be divided into four groups:—(1) Gases that were poisonous when inhaled, but without effect on the skin; (2) gases that were poisonous in high concentration; (3) Poisonous smoke; (4) Blistering gases. What was wanted was a gas that would have the effect of rendering the enemy unconscious for a short time but without fatal results.

SIR JOSIAH STAMP, I.C.I., was on Wednesday elected to the Court of Directors of the Bank of England.

MR. W. J. COURTAULD, of Halstead, a member of the artificial silk firm, has been appointed chairman of the Essex Quarter Sessions.

THE PREMISES OF MR. HENRY WILKES, chemical manufacturer, Eyre Street, Spring Hill, Birmingham, were the scene of a fire on Saturday night, April 14.

EXPORTS OF AMMONIUM SULPHATE from the United States during the past three years amounted to 123,141 tons in 1925, 181,125 tons in 1926, and 140,492 tons in 1927.

ARRANGEMENTS are being made for the holding, in Liverpool, of the annual autumn meeting of the Institute of Metals. The meeting will be held from September 4 to 7.

LORD BLEDISLOE, chairman of the Imperial Grasslands Association, and the Hon. Mrs. Cooper-Smith were married at St. Paul's Church, Knightsbridge, London, on Monday.

THE GAS LIGHT AND COKE CO. has completed the agreement with the Government by which the company is to erect a low-temperature carbonisation plant at the Richmond Gasworks, which will be ready for use in a few months.

POLISH IMPORTS of inorganic chemical materials and products in January amounted in value to 10,780,000 zloty, and imports of organic chemical materials and products amounted to 11,278,000 zloty. Exports were valued at 1,367,000 zloty and 1,345,000 zloty respectively.

THE LATE DR. LUDWIG MOND, according to German Press reports, left by will the sum of £20,000 to his native town of Cassel for charitable purposes, and the British Government has sanctioned the payment of 60 per cent. of this to the city, the balance to be retained and credited to the account of Germany.

OWING TO THE BURSTING of a hydro-extractor at the Castleford works of Hickson and Partners, Ltd., Samuel Shepherd Hodgson, aged 39, was struck in the stomach by a flying piece of metal, and died from his injuries in the Leeds General Infirmary on April 15. At an inquest on Tuesday a verdict of "Accidental death" was recorded.

A PAPER on "Synthetic Liquid Fuels," having a bearing on the possibility of extracting oils from Australian brown coals, was read by Mr. H. W. Strong at the recent meeting of the Australian Association for the Advancement of Science at Hobart. A paper on "The Origin of Tasmanian Oil Shale and Coal Deposits" was contributed by Mr. A. McIntosh Reid.

A SPECIAL COURSE of eight lectures dealing with "High Pressure Gas Reactions and Research" will be given at the Imperial College of Science and Technology, South Kensington, London, S.W.7, on Friday afternoons at 4 p.m., commencing on May 11, by Professor W. A. Bone, F.R.S., and Drs. D. M. Newitt and D. T. A. Townend. Details may be obtained from the Registrar.

A DISASTROUS FIRE which illuminated the whole town of Warwick occurred on Friday, April 13, at the gelatine works of George Nelson, Dale, and Co., Ltd. The fire was first discovered at about 7.45 p.m., and within three-quarters of an hour the whole of the drying department, where the finished gelatine products are dried by hot air, was gutted. The flames rose to a great height, spreading to other parts of the factory, which covers 4½ acres.

DR. F. TINKER, of Birmingham, is one of the directors of Xetal Safety Glass, Ltd., a company which on Wednesday offered for public subscription 135,000 10 per cent. cumulative participating preferred ordinary £1 shares and 270,000 deferred 1s. shares. The capital of the company is £185,000. It has been formed to take over the manufacture of an unsplinterable glass known as "Xetal Safety Glass," invented by Mr. P. H. Head.

GRANTS have been made by the executive committee of the Australian Council for Scientific and Industrial Research to the following persons engaged in research, from the income of £1,200 for the purpose: Professor B. D. Steele, and Drs. T. G. H. Jones, W. Davies, and S. W. Pennycuick, for chemical research; Mr. H. R. Marston, for bio-chemical research; and Professor A. McAulay, for research on the corrosion of iron.

MR. H. C. PARMELEE, editor of *Chemical and Metallurgical Engineering* (New York), and secretary of the American Institution of Chemical Engineers, arrived with Mrs. Parmelee by the White Star liner *Cedric* on Monday at Liverpool. He will spend about a fortnight visiting various centres in the north of England and expects to reach London on Saturday, April 28, and to spend the following week in London, before leaving for the Continent. Among other engagements, he will be entertained to dinner by the Institution of Chemical Engineers on the Friday evening.

Obituary

MR. C. L. PARKER, a well-known United States chemical patent law authority, on March 12.

DR. CARL SCHLEUSZNER, deputy director of the Höchst works of the I.G., on April 5, aged 66.

MR. WILFRED IRWIN, managing director of the West Cumberland By-Products Co., Maryport, recently, in Jerusalem.

References to Current Literature

British

APPARATUS.—A new pipette. H. N. Ridyard. *J. Chem. Soc.*, March, pp. 749–750.

A new jelly-strength tester, and some experiments on gelatin gels. A. F. Tracey. *J.S.C.I.*, April 6, pp. 94–96T.

Burette-reading device. M. Hyman. *J.S.C.I.*, April 6, p. 100T.

COLLOIDS.—Gelatins of different origin as emulsifying agents. J. C. Kernot and J. Knaggs. *J.S.C.I.*, April 6, pp. 96–100T.

DYESTUFFS.—Azoic and other insoluble colours. A. E. Everest and J. A. Wallwork. *J. Soc. Dyers and Colourists*, April, pp. 103–106.

GENERAL.—Trimethyl platinum acetylacetone, a volatile platinum compound. R. C. Menzies. *J. Chem. Soc.*, March, pp. 565–566.

Beryllium: A survey. A. C. Vivian. *Mining Mag.*, April, pp. 220–222.

Cellulose lacquers. S. Smith. *J. Soc. Dyers and Colourists*, April, pp. 106–109.

Transmission of ultra-violet radiation by various fabrics. H. R. Hirst, P. E. King, and P. N. Lambert. *J. Soc. Dyers and Colourists*, April, pp. 109–113.

ORGANIC.—Polysaccharides. I. The structure of inulin. W. N. Haworth and A. Learner. *J. Chem. Soc.*, March, pp. 619–625.

The action of bromine water on certain olefinic acids. John Read and W. G. Reid. *J. Chem. Soc.*, March, pp. 745–749.

United States

ALCOHOL SYNTHESIS.—Synthesis of alcohols higher than methanol from carbon monoxide and hydrogen. P. K. Frolich and W. K. Lewis. *Ind. Eng. Chem.*, April 1, pp. 354–359.

APPARATUS.—A simplified manometer for vacuum distillations. G. B. Heisig. *Ind. Eng. Chem.*, April 1, pp. 382–383.

A new colloid mill. O. Auspitzer. *Ind. Eng. Chem.*, April 1, pp. 413–415.

A micro-fractionating column for analytical purposes. C. M. Cooper and E. V. Fasce. *Ind. Eng. Chem.*, April 1, pp. 420–421.

DYESTUFFS.—Some azo dyes soluble in non-aqueous solvents. C. E. May and H. Hunt. *Ind. Eng. Chem.*, April 1, pp. 384–388. By coupling 1-amino-2-naphthol 4-amino-1 : 2-naphthoquinone with diazo-chlorides, about 30 new red dyes, insoluble in water, but soluble in paraffins, aromatic hydrocarbons, linseed oil, carbon tetrachloride, etc., have been prepared.

GENERAL.—An attempt to prepare triatomic hydrogen. H. M. Smallwood and H. C. Urey. *J. Amer. Chem. Soc.*, March, pp. 620–626. Unsuccessful attempts have been made to prepare H_3 by various methods. It is concluded that the existence of H_3 is not as certain as has been supposed.

ORGANIC.—The reaction between duroquinone and the Grignard reagents. L. E. Smith and H. Marjorie Crawford. *J. Amer. Chem. Soc.*, March, pp. 869–883.

The catalytic reduction of nitro-organic compounds in the liquid system. O. W. Brown, G. Etzel, and C. O. Henke. *J. Phys. Chem.*, April, pp. 631–635. Using a nickel catalyst, and benzol and ethyl alcohol as solvents, nitrobenzene, α-nitronaphthalene, *o*-nitrophenol, and dinitrotoluene, at 215° C., and pressure of hydrogen 500 lbs. the sq. in., are quantitatively reduced to the corresponding amines.

TAR.—Composition of tar from low-temperature carbonisation of Utah coal. I. R. L. Brown and B. F. Branting. *Ind. Eng. Chem.*, April 1, pp. 392–396.

German

AMMONIA SYNTHESIS.—The synthesis of ammonia with catalysts formed from complex cyanides of iron. A. Mittasch and E. Kusz. *Zeitschrift Elektrochem.*, April, pp. 159–170. When complex cyanides are used as catalysts in ammonia synthesis, the actual catalytic agent is the elementary iron formed by their decomposition.

ANALYSIS.—Determination of sugar by means of Fehling's solution and centrifuging. W. S. Iljin. *Biochem. Zeitschrift*, Vol. 193, Parts 4–6, pp. 322–325.

Determination of two sugars in a solution. W. S. Iljin. *Biochem. Zeitschrift*, Vol. 193, Parts 4–6, pp. 326–333.

A simple colour reaction for the detection of small differences in the hydrogen-ion concentration of solutions. W. Kesting. *Zeitschrift angewandte Chem.*, April 7, pp. 358–360.

APPARATUS.—A simplified calorimeter for determinations of calorific power. A Eucken and L. Meyer. *Chemische Fabrik*, April 4, pp. 101–179; April 11, pp. 195–196. A simple, convenient apparatus is described, in which 30–50 mg. of substance are burned in a copper-block calorimeter at atmospheric pressure.

A cheap, practical, and durable laboratory evaporating bath. P. Oertel. *Chemiker-Zeitung*, April 14, p. 302.

A new rapid-drying apparatus for dye-pastes. *Chemiker-Zeitung*, April 11, p. 291.

CATALYSIS.—The catalytic fission and oxidation of formic acid. E. Müller and K. Schwabe. *Zeitschrift Elektrochem.*, April, pp. 170–185. Of the platinum metals, palladium alone is suitable for the catalytic fission of formic acid; while the oxidation of the latter is strongly catalysed by palladium, platinum, and rhodium.

GENERAL.—Dust explosions. Dr. Leymann. *Chem. Fabrik.*, April 4, pp. 179–180.

The mechanism of the protection of wood by preservatives. Dr. Dehnst. *Zeitschrift angewandte Chem.*, April 7, pp. 355–358.

Carbon disulphide in the manufacture of viscose. J. Eggert. *Chemiker-Zeitung*, April 11, pp. 289–290.

French

ADSORPTION.—The adsorption of iodine by carbon in various organic solvents. M. Trividic. *Comptes Rendus*, March 26, pp. 865–867.

CELLULOSE.—The study of cellulose and cellulose acetates by means of X-rays. J. J. Trillat. *Comptes Rendus*, March 26, pp. 859–861.

COLLOIDS.—Peptisation of ferric hydrate by solutions of arsenious oxide. A. Boutaric and G. Perreau. *Revue Générale Colloïdes*, January, pp. 1–7.

The phenomena of adsorption. G. Testoni. *Revue Générale Colloïdes*, January, pp. 7–15. Deals with the bearing of adsorption phenomena on the constitution of flour.

Colloids and their industrial applications. H. Pariselle. *Revue Générale Matières Plastiques*, March, pp. 131–139.

Emulsions and gels of silicic acid. H. N. Holmes. *Bulletin Soc. Chim. France*, March, pp. 261–288.

GENERAL.—A new property of certain silica gels. P. Bary. *Comptes Rendus*, March 26, pp. 863–864.

The esterification and hardening of colophony. *Revue Produits Chim.*, March 31, pp. 201–203.

The use of sulphuric acid in agriculture. P. Wagnet. *Revue Produits Chim.*, March 15, pp. 161–166; March 31, pp. 203–207.

ORGANIC.—The action of magnesium on some para-brominated ethylenic derivatives of benzene. R. Quelet. *Comptes Rendus*, March 20, pp. 765–767.

The dehydration of the pinacone of cycloheptanone. M. Godchot and G. Cauquil. *Comptes Rendus*, March 20, pp. 767–769.

WATER.—The purification of industrial waters by precipitation. A. Langumier. *Revue Générale Matières Plastiques*, February, pp. 93–96; March, pp. 158–162.

The removal of iron and of gases from industrial water, and its filtration. The purification of factory effluent waters. A. Langumier. *Arts et Métiers*, March, pp. 96–109.

Patent Literature

The following information is prepared from published Patent Specifications and from the Illustrated Official Journal (Patents) by permission of the Controller to H.M. Stationery Office. Printed copies of full Patent Specifications accepted may be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, at 1s. each.

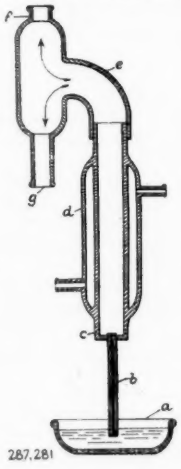
Abstracts of Complete Specifications

287,226. RECOVERY OF PHENOL FROM WASTE WATER CONTAINING AMMONIA, PROCESSES FOR. F. Raschig, 52, Mundenheimerstrasse, Ludwigshafen, Germany. Application date, December 15, 1926.

The process is for recovering phenol from the waste water of gas works, coke ovens, etc., by means of benzol. When this recovery is carried out in a column by passing the waste water and benzol in opposite directions over Raschig rings of 2-3 centimentres diameter and 2-3 centimetres length, only 40-50 per cent. of the phenol is absorbed by the benzol. The amount of phenol still remaining in the waste water renders it injurious to vegetable and animal life if discharged into a river. In this invention, the waste water is heated to 50°-60° C. and is treated with benzol in a counter-current apparatus filled with Raschig rings of 15 mm. diameter and corresponding length, and it is found that 90 per cent. or more of the phenol is absorbed by the benzol. The mixture of benzol and phenol is distilled to separate the constituents, and the benzol vapour is condensed in a condenser cooled by the waste water which is thereby heated to 50°-60° C. This process also removes hydrocarbons which may be in the waste water, and the residue is treated for the recovery of ammonia.

287,281. HYDROGEN PEROXIDE, MANUFACTURE OF. A. E. Vidal, London. From J. D. Riedel Akt.-Ges., 132, Riedelstrasse, Berlin-Britz, Germany. Application date, February 4, 1927.

In the distillation of hydrogen peroxide from persulphuric acid or acid solutions of persulphates, the yield is adversely affected by the presence of catalysts in the solution. In this invention, the yield is increased by drawing in the solution at the lower end of a vertical tube heated externally so that liquid overflows at the top, and hydrogen peroxide and water vapour pass to a condenser. The apparatus may be of chromium-nickel alloys obtained by the vacuum smelting process, even when these alloys contain a small amount of iron or other metal. In distillation from tubes it is found to be important that the supply of liquid should be perfectly uniform, but this is difficult to obtain in the case of a large number of tubes. It is found that a uniform flow can be obtained if the liquid is drawn into the distillation tube through a capillary tube. In this manner an increased yield of 50 per cent. is obtained, compared with the regulation of the supply by a valve.



287,281

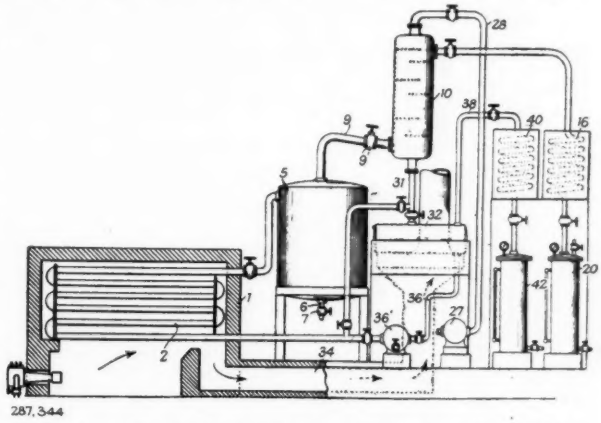
The solution to be distilled is drawn from a container *a* through a capillary tube *b* into a tube *c* heated by a jacket *d* connected at the top to a receiver *e* from which liquid passes off at *g* and vapour at *f*.

287,232. TRISAZO DYESTUFFS. W. Carpmael, London. From I. G. Farbenindustrie, Akt.-Ges., Frankfort-on-Main, Germany. Application date, December 16, 1926. Addition to 248,230.

Specification No. 248,230 describes the manufacture of trisazo dyestuffs containing 1-amino-2-naphthol-ether sulphonic acid as third component and 2-amino-5-naphthol-7-sulphonic acid or 2-arylamino-5-naphthol-7-sulphonic acid as end component, in which an arylazo-arylazo-1-diazo-2-naphthol-ether sulphonic acid is coupled with 2-amino-5-naphthol-7-sulphonic acid or 2-arylamino-5-naphthol-7-sulphonic acid in the presence of pyridine, a derivative, or homologue. In this invention, the 1-amino-2-naphtholether sulphonic acid is replaced by 1-amino-2-naphthol-ether, and other derivatives of the 2-amino-5-naphthol-7-sulphonic acid are used. In an example, aniline-3 : 6-disulphonic acid is diazotised and coupled with 1-naphthylamine-7-sulphonic acid, and the product diazotised and treated with 1-amino-2-naphthol-ethyl-ether. The product is diazotised and coupled with 2-phenylamino-5-naphthol-7-sulphonic acid yielding a dyestuff which gives greenish-blue shades on cotton. The 2-arylamino-5-naphthol-7-sulphonic acids 2-alkalyamino-5-naphthol-7-sulphonic acids, 2-aralkylamino-5-naphthol-7-sulphonic acids, 2-aroylamino-5-naphthol-7-sulphonic acids, or their substitution products, carbonyl-2-amino-5-naphthol-7-sulphonic acid, 5 : 5¹-dihydroxy-2 : 2¹-dinaphthylamine-7 : 7¹-disulphonic acid, *m*- and *p*- aminophenyl-1 : 2-naphthimidazol-5-hydroxy-7-sulphonic acids, *m*- and *p*-aminophenyl-1 : 2-naphthothiazol-5-hydroxy-7-sulphonic acids may also be used.

287,344. CRACKING HYDROCARBON OIL. R. T. Pollock, 1,160, 5th Avenue, New York. Application date, April 29, 1927.

A heating coil 2 in a furnace 1 is connected to a vapour chamber 5 having a liquid draw off 6 with throttle valve, 7 and a vapour outlet pipe 9 with throttle valve 9¹ leading to



287,344

the bottom of a dephlegmator 10. The top of the dephlegmator is connected to a condenser 16 and receiver 20 provided with gas and liquid outlets. Raw oil is supplied by pump 27 through pipe 28 to the top of the dephlegmator, from which it passes by pipe 31 to still 32. This still is heated by flue gases from the furnace 1, which pass through the flue 34. The unvaporised part of the raw oil and reflux condensate from the still 32 pass through pipe 36 and pump 36¹ to heating tubes 2. Vapour is drawn off through pipe 38 to a condenser 40 and receiver 42. The still 32 is heated to 450° F., the end point of the gasoline desired. The coil 2, chamber 5, dephlegmator 10, condenser 16, and receiver 20, are maintained at about 150 lb. per square inch, the oil in liquid phase being maintained at about 900° F. The reflux condensate may be distilled at atmospheric pressure or under vacuum.

287,401. VANADIC ACID, PREPARATION OF. H. G. C. Fairweather, London. From the Seldon Co., 339, 2nd Avenue, Pittsburg, Pa., U.S.A. Application date, September 14, 1927.

Commercial vanadic acid often contains heavy metals such as iron, cobalt, nickel, copper, chromium, aluminium, manganese, etc., which are injurious in catalytic reactions in which vanadium catalysts are used. Salicylic acid may also be present and heavy metal silicates. Commercial vanadic acid may contain alkali if it has been precipitated from alkali metal vanadate by means of ammonium chloride. The object is to obtain a highly purified vanadic acid. Vanadium ore is broken up and converted into a vanadate solution and subjected to oxidation, the solution being alkaline. Iron is partly oxidised to ferric form, manganese to tetravalent forms, arsenic to arsenic acid, and nitrites to nitrates. The oxidising agent may be chlorine, bromine, or their oxy-acids or salts,

hydrogen peroxide, ozone, alkali peroxides, or oxygen at high temperature. If alkaline earth metals are present, alkali metal carbonates may be added to precipitate them, and also nickel, copper, cobalt, etc. Barium alone may be precipitated by a sulphate. The alkaline solution is then treated with hydrochloric or nitric acid until acid to litmus, which precipitates any alkali-soluble substances and colloidal silicic acid. The acidified solution is then oxidised by similar oxidising media which will convert traces of iron to the ferric state, and coagulate traces of silica. If phosphorus or arsenic acid is present, a magnesium salt is added to precipitate them at a later stage, as magnesium ammonium phosphate or arsenate. The oxidised acid solution is then heated to boiling point to dissolve any precipitated vanadic acid and precipitate any traces of iron and aluminium, trivalent chromium, phosphates, arsenates and silicates. The solution is filtered hot, and then contains purified potassium and ammonium vanadate, and possibly some chromic acid. The vanadate solution is then treated with ammonium chloride free from iron, and cooled to precipitate ammonium vanadate, which is filtered and washed until free from chlorine. The ammonium vanadate is then heated in a stream of oxygen to obtain chemically pure vanadic acid.

NOTE.—Abstracts of the following specifications which are now accepted, appeared in THE CHEMICAL AGE when they became open to inspection under the International Convention —262,819, 266,382 and 273,656 (I. G. Farbenindustrie Akt.-Ges.) relating to vat dyestuffs, see Vol. XVI, pp. 189 and 429, and Vol. XVII, p. 221; 263,163 (I. G. Farbenindustrie Akt.-Ges.) relating to polycyclic compounds containing a carbonyl group, see Vol. XVI, p. 217; 263,178 (I. G. Farbenindustrie Akt.-Ges.) relating to condensation products of the anthraquinone series, see Vol. XVI, p. 217; 267,163 (I. G. Farbenindustrie Akt.-Ges.) relating to orthoamino-aldehydes and orthoamino-ketones of the anthraquinone series, see Vol. XVI, p. 468; 267,164 (I. G. Farbenindustrie Akt.-Ges.) relating to orthoamino-carboxylic acids of the anthraquinone series, see Vol. XVI, p. 468; 271,818 (R. H. Bots and Soc. Anon. Produits Chimiques Coverlin) relating to vanillin, see Vol. XVII, p. 115; 271,819 (R. H. Bots and Soc. Anon. Produits Chimiques Coverlin) relating to iso-eugenol, see Vol. XVII, p. 115; 274,465 (R. Feige) relating to oils from coal, see Vol. XVII, p. 291; 277,285 (Newport Co.) relating to 3 : 4-diamino-benzoyl-*o*-benzoic acids, see Vol. XVII, p. 445; 278,325 (F. Bensa) relating to dyestuffs, see Vol. XVII, p. 515; 284, 208 (Soc. Generale Metallurgique de Hoboken) relating to sulphuric acid, see Vol. XVIII, p. 305.

International Specifications not yet Accepted

285,097. DYES. I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, February 11, 1927.

Mordant dyestuffs are obtained by coupling two molecular proportions of the same or different diazo compounds of the benzene series containing the residue of an *o*-oxyarylcarboxylic acid with one molecular proportion of a 1 : 3-dioxy compound of the benzene series. Fast brown shades are obtained when chrome printed on cotton, and examples are given.

285,382. SULPHURETTED DYES. I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, February 14, 1927. Addition to 286,005.

p-aminophenol is subjected to simultaneous oxidation with hexahydro-carbazole, N-ethyl-hexahydro-carbazole, tetrahydro-quinoline, tetrahydro-lepidine, octahydro-α-naphthoquinoline, and with octahydro-acridine. The resulting indophenol is isolated as the leuco derivative. A caustic alkali solution is oxidised in the presence of air to red and violet solutions of the indophenols.

285,386. CARBON. Verein für Chemische und Metallurgische Produktion, Aussig, Czecho-Slovakia. International Convention date, February 14, 1927.

Active charcoal which is acid owing to activation by acidic substances, is neutralised by treating under pressure with milk of lime, sodium carbonate, sodium hydroxide, etc., at about 150° C.

285,389. DYES. I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, February 14, 1927.

To obtain 2-thionaphthene-3-indoleindigoid dyes, 6-amino-oxythionaphthene is condensed with a 5:7-dihalogen-isatin, and two chlorine atoms are then introduced into the 5:7-positions on the thionaphthene side, *e.g.*, by means of sulphuryl chloride. Alternatively, 5:7-dichlor-6-amino-oxythio-naphthene is condensed with a 5 : 7-dihalogen-isatin. The oxythionaphthene can be obtained from 2-amino-4:6-dichlor-5-acetyl-amino-1-thioglycollic acid or from 4-amino-2:6-dichloracetanilide.

285,394 and 285,403. MENTHOL. Rheinische Kampfer-Fabrik Ges., 20, Kasselerstrasse, Oberkassel, Dusseldorf, Germany. International Convention date, February 15, 1927.

285,394. Hydrogenation of thymol, menthone, and isomenthone produces a mixture of inactive neomenthol, an unknown inactive neoisomenthol, and some inactive menthol. Inactive neomenthol is separated by freezing out, solid inactive menthol by fractional distillation, and the neoisomenthol is isolated by distillation from the remaining liquid product. An example is given.

285,403. Several methods are described for the preparation of *i*-menthol from *i*-neomenthol and *i*-neoisomenthol. These substances may be treated with hydrogen in the presence of a catalyst, or heated with the mentholates of the alkali or alkaline earth metals, magnesium or aluminium, above 100° C., or oxidised with chromic acid or treated with dehydrogenation catalysts, followed by hydrogenation of the resulting *i*-menthone, or *i*-isomenthone. The catalysts used comprise nickel, cobalt, copper, platinum, or palladium, finely divided or distributed on carriers.

285,426. MALEIC ACID AND ANHYDRIDE. A. Boehringer, Nieder-Ingelheim-on-Rhine, Germany. International Convention date, February 16, 1927.

These are obtained by catalytic oxidation of compounds of the furane series such as furane, furfuryl alcohol, furfural, methyl furfural, oxymethyl furfural and pyromucic acid, or commercial raw products such as crude furfural. The catalyst may be vanadium or molybdenum oxides, metal vanadates, molybdates, chromates, uranates, etc., activated by phosphoric or boric acid. An excess of oxygen may be used, or it may be diluted. The reaction may be effected at 200° C.

285,451. AROMATIC OXYALDEHYDES. J. D. Riedel Akt.-Ges., 1, Riedelstrasse, Britz, Berlin. International Convention date, February 17, 1927.

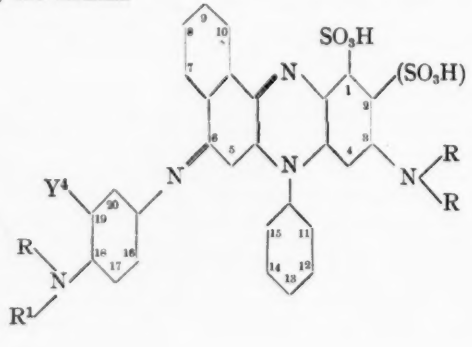
Propenyl-oxybenzenes are oxidised with an excess of nitrobenzene in the presence of excess of alkali hydroxide to obtain aromatic oxyaldehydes. Isoeugenol yields vanillin, 1-oxy-2-ethoxy-4-propenylbenzene yields the next higher homologue of vanillin, and isochavibetol yields isovanillin.

285,459. SYNTHETIC RESINOUS COMPOSITIONS. British Thomson-Houston Co., Ltd., Crown House, Aldwych, London. (Assignees of E. S. Dawson, 1137, Ardsley Road. Schenectady, N.Y., U.S.A.) International Convention date, February 17, 1927.

Resinous compositions for moulding or for varnish bases consist of a polybasic acid such as phthalic, camphoric, naphthalic, benzoic, or malonic acid, a polyhydric alcohol such as glycerin, glycol, etc., and a drying oil such as linseed, china wood, or perilla oil.

285,486. DYES. J. R. Geigy Akt.-Ges., 51, Riehenring, Basle, Switzerland. International Convention date, February 19, 1927. Addition to 265,986.

A tri- or tetra-alkyl-phenonaphtho-safranine sulphonic acid having the formula



where R=alkyl, R^1=alkyl or hydrogen, Y^1=hydrogen chlorine, or a neutral group, and including a sulpho group in 1 or 2 position and possibly a second in positions 8, 9, or 11—15, is treated with a sulphonating agent whereby an additional sulphonic group is introduced into the 16 position. Examples are given.

285,488. ANILINE DISULPHONIC ACID. I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, February 18, 1927.

Aniline-3-sulphonic acid is heated with oleum, and the mixture diluted with water and boiled under reflux. Aniline disulphonic acid is obtained.

285,502 and 285,504. DYES. I.G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, February 18, 1927.

285,502. Polyhalogen-pyranthrones or their derivatives are heated with nitrogen-containing compounds in which at least one reactive hydrogen atom is connected to the nitrogen atom, whereby several or all of the halogen atoms are substituted by nitrogenous radicles. The products differ essentially from those in which only one halogen atom is substituted. In one example, tribrom-pyranthrone is heated with α-aminoanthraquinone.

285,504. These dyes are obtained by condensing at both amino groups, diaminodiphenyl or its derivatives with halogen-nitrosulphonic acids of the benzene and naphthalene series in which the halogen atoms are exchangeable. Organic solvents, acid-binding agents, and catalysts, may be employed. In one example, benzidine is condensed with potassium-1-chlor-2:6 dinitrobenzene-4-sulphonate.

LATEST NOTIFICATIONS.

288,223. Supports made of cellulose derivatives for use in the manufacture of sheets of material soluble in organic solvents. I.G. Farbenindustrie Akt.-Ges. April 9, 1927.

288,291. Process for the manufacture of new vat dyestuffs of the anthanthrone series. I.G. Farbenindustrie Akt.-Ges. April 9, 1927.

288,206. Vulcanisation of latex. I.G. Farbenindustrie Akt.-Ges. April 4, 1927.

288,213. Manufacture of aldehyde. Consortium für Elektro-Chemische Industrie Ges. April 4, 1927.

288,214. Manufacture of dyestuffs. I.G. Farbenindustrie Akt.-Ges April 4, 1927.

288,215. Manufacture of vat-dyestuffs. I.G. Farbenindustrie Akt.-Ges. April 4, 1927.

288,306. Process for dyeing throughout with vat-dyestuffs compact vegetable material. Soc. of Chemical Industry in Basle. April 9, 1927.

288,307. Process for the manufacture of new copper ammine complex azo compounds. I.G. Farbenindustrie Akt.-Ges. April 6, 1927.

288,308. Manufacture of phenol from chlorobenzene. I.G. Farbenindustrie Akt.-Ges. April 7, 1927.

288,330. Process for the simultaneous preparation of hydrochloric acid and of a potassium phosphate. Soc. Anon. Des Charbons Actifs E. Urbain. April 8, 1927.

Specifications Accepted with Date of Application

262,418. Dyestuffs containing chromium, Manufacture and production of. I.G. Farbenindustrie Akt.-Ges. December 1, 1925.

263,843. Thiomorpholines of the anthraquinone series, Manufacture of. I.G. Farbenindustrie Akt.-Ges. December 29, 1925. Addition to 263,178-9.

263,859 and 288,056. Reaction products from gases treated with electric arcs, Recovery of. I.G. Farbenindustrie Akt.-Ges. December 30, 1925, and December 30, 1926. 288,056, addition to 263,859.

265,930. Vulcanisation of rubber substances and products obtained therefrom. Grasselli Chemical Co. February 12, 1926. Addition to 249,113.

270,750. Colour lakes, Manufacture and production of. I.G. Farbenindustrie Akt.-Ges. May 10, 1926.

271,514. Fumigating mixtures containing hydrocyanic acid, and process for their production. Deutsche Gold-und Silber Scheideanstalt vorm. Roessler. May 22, 1926.

275,561. Flotation processes. D. Guggenheim, M. Guggenheim, S. R. Guggenheim, S. Guggenheim, J. K. MacGowan, and E. A. C. Smith (trading as Guggenheim Bros.). August 3, 1926.

282,412. Alkyl-β-halogen-ethyl ketones, Process for the manufacture of. Schering-Kahlbaum Akt.-Ges. (formerly Chemische Fabrik auf Actien (vorm. E. Schering)). December 15, 1926.

285,001. Disodium salts of sulpho-methyl aminometalmercapto sulphonic acids, Manufacture of. Schering-Kahlbaum Akt.-Ges. (formerly Chemische auf Actien (vorm. E. Schering)). February 8, 1927. Addition to 270,729.

287,967. Ketones, Manufacture of. Sir W. J. Pope. December 31, 1926.

287,995. Triarylmethane dyes, Manufacture of. British Dyestuffs Corporation, Ltd., and T. A. Simmons. February 5, 1927.

288,004. Impure metals or alloys, Treatment of. H. Harris. February 21, 1927.

288,049. Tin from alloys and mechanical mixtures, Separation of. F. Bichitzky. May 23, 1927.

Applications for Patents

Carpmael, A., and I.G. Farbenindustrie Akt.-Ges. Manufacture of dis- and poly-azo dyestuffs. 10,722. April 11.

Carpmael, A., and I.G. Farbenindustrie Akt.-Ges. Manufacture of azo dyestuffs. 10,989. April 13.

Cassel Cyanide Co., Ltd., and Ewan, T. Manufacture of carbon from carbon monoxide. 10,905. April 13.

Chwala, A. Mechanical dispersion of alkaline earth and heavy metal salts of the phosphoric and arsenic acids. 10,631. April 10.

Dreyfus, H. Manufacture of aliphatic anhydrides. 11,095. April 14.

Gordon, K., and Imperial Chemical Industries, Ltd. Removal of carbon dioxide from gases. 10,665. April 11.

Graesser-Monsanto Chemical Works, Ltd., and Hudson, D.P. Production of aromatic hydroxyaldehydes, etc. 11,042, 11,043. April 14.

Harris, H. Separation of alkali stannate, etc., from solutions. 11,016. April 13.

I.G. Farbenindustrie Akt.-Ges., and Johnson, J. Y. Production of unsaturated hydrocarbons. 10,561. April 10.

I.G. Farbenindustrie Akt.-Ges., and Johnson, J. Y. Prevention and removal of boiler scale. 10,562. April 10.

I.G. Farbenindustrie Akt.-Ges., and Johnson, J. Y. Apparatus for introducing a liquid into another heated liquid. 10,563. April 10.

I.G. Farbenindustrie Akt.-Ges., and Johnson, J. Y. Preparations for production of aqueous solutions of organic compounds. 10,654. April 10. (October 7, 1926.)

I.G. Farbenindustrie Akt.-Ges., and Johnson, J. Y. Process for producing resistant silver surfaces. 10,953. April 13.

I.G. Farbenindustrie Akt.-Ges., and Johnson, J. Y. Catalytic reactions. 10,954. April 13.

I.G. Farbenindustrie Akt.-Ges., and Johnson, J. Y. Production of unsaturated hydrocarbons. 11,091. April 14.

I.G. Farbenindustrie Akt.-Ges. Production of liquid hydrocarbons. 10,560. April 10.

I.G. Farbenindustrie Akt.-Ges. Manufacture of vat dyestuffs. 10,713. April 11. (Germany, April 11, 1927.)

I.G. Farbenindustrie Akt.-Ges. Manufacture of basic phenol alkyl ethers. 10,721. April 11. (Germany, April 11, 1927.)

I.G. Farbenindustrie Akt.-Ges. Manufacture of sulphonic acids. 10,952. April 13. (Germany, June 21, 1926.)

I.G. Farbenindustrie Akt.-Ges. Manufacture of metal sulphates from sulphides. 10,990. April 13. (Germany, April 16, 1927.)

Imperial Chemical Industries, Ltd. Production of pure ammonium sulphate. 10,666. April 11.

Imperial Chemical Industries, Ltd. Processes for pickling metals. 11,129. April 14.

Imperial Chemical Industries, Ltd. Alkaline treatment of cellulosic materials. 11,130. April 14.

Paton, J. D. Carbonisation plant. 10,603. April 10.

Scottish Dyes, Ltd., Thomas, J., and Smith, W. Production of dyestuffs, etc. 10,727. April 11.

Selden Co. Catalytic hydrogenation of non-nitrogenous organic compounds. 11,035. April 14. (United States, February 25.)

Selden Co. Catalytic reduction of carbonyl compounds. 11,040. April 14. (United States, February 21.)

Selden Co. Removing hydrogen, etc., containing groups from organic compounds. 11,044. April 14. (United States, February 27.)

Selden Co. Carrying on catalytic molecular association of organic compounds. 11,024. April 14. (United States, February 27.)

Selden Co. Method of catalytically oxidising ammonia. 11,028. April 14. (United States, February 25.)

Slade, R. E. Production of pure ammonium sulphate. 10,666. April 11.

Weekly Prices of British Chemical Products

The prices and comments given below respecting British chemical products are based on direct information supplied by the British manufacturers concerned. Unless otherwise qualified, the figures quoted apply to fair quantities, net and naked at makers' works.

General Heavy Chemicals

ACID ACETIC, 40% TECH.—£19 per ton.

ACID BORIC, COMMERCIAL.—Crystal, £30 per ton; powder, £32 per ton; extra fine powder, £34 per ton.

ACID HYDROCHLORIC.—3s. 9d. to 6s. per carboy d/d, according to purity strength, and locality.

ACID NITRIC, 80° Tw.—£21 10s. to £27 per ton, makers' works, according to district and quality.

ACID SULPHURIC.—Average National prices f.o.r. makers' works, with slight variations up and down owing to local considerations; 140° Tw., Crude Acid, 60s. per ton. 168° Tw., Arsenical, £5 10s. per ton. 168° Tw., Non-arsenical, £6 15s. per ton.

AMMONIA ALKALI.—£6 15s. per ton f.o.r. Special terms for contracts

BISULPHITE OF LIME.—£7 10s. per ton, f.o.r. London, packages extra

BLEACHING POWDER.—Spot, £9 10s. per ton d/d; Contract, £8 10s. per ton d/d, 4-ton lots.

BORAX, COMMERCIAL.—Crystals, £19 10s. to £20 per ton; granulated, £19 per ton; powder, £21 per ton. (Packed in 2-cwt. bags, carriage paid any station in Great Britain.)

CALCIUM CHLORIDE (SOLID).—£5 to £5 5s. per ton d/d carr. paid.

COPPER SULPHATE.—£25 to £25 10s. per ton.

METHYLATED SPIRIT 61 O.P.—Industrial, 1s. 6d. to 1s. 11d. per gall.; pyridinised industrial, 1s. 8d. to 2s. 1d. per gall.; mineralised, 2s. 7d. to 2s. 11d. per gall.; 64 O.P., 1d. extra in all cases.

NICKEL SULPHATE.—£38 per ton d/d.

NICKEL AMMONIA SULPHATE.—£38 per ton d/d.

POTASH CAUSTIC.—£30 to £33 per ton.

POTASSIUM BICHROMATE.—4½d. per lb.

POTASSIUM CHLORATE.—3¾d. per lb., ex wharf, London, in cwt. kegs.

SALAMMONIAC.—£45 to £50 per ton d/d. Chloride of ammonia, £37 to £45 per ton, carr. paid.

SALT CAKE.—£3 15s. to £4 per ton d/d. In bulk.

SODA CAUSTIC, SOLID.—Spot lots delivered, £15 2s. 6d. to £18 per ton, according to strength; 20s. less for contracts.

SODA CRYSTALS.—£5 to £5 5s. per ton, ex railway depots or ports.

SODIUM ACETATE 97/98%.—£21 per ton.

SODIUM BICARBONATE.—£10 10s. per ton, carr. paid.

SODIUM BICHROMATE.—3½d. per lb.

SODIUM BISULPHITE POWDER, 60/62%.—£17 10s. per ton delivered for home market, 1-cwt. drums included; £15 10s. f.o.r. London.

SODIUM CHLORATE.—2¾d. per lb.

SODIUM NITRITE, 100% BASIS.—£27 per ton d/d.

SODIUM PHOSPHATE.—£14 per ton, f.o.b. London, casks free.

SODIUM SULPHATE (GLAUBER SALTS).—£3 12s. 6d. per ton.

SODIUM SULPHIDE CONC. SOLID, 60/65.—£13 5s. per ton d/d. Contract, £13. Carr. paid.

SODIUM SULPHIDE CRYSTALS.—Spot, £8 12s. 6d. per ton d/d. Contract, £8 10s. Carr. paid.

SODIUM SULPHITE, PEA CRYSTALS.—£14 per ton f.o.b. London, 1-cwt. kegs included.

Coal Tar Products

ACID CARBOLIC CRYSTALS.—6½d. to 6¾d. per lb. Crude 60's, 2s. 3d. to 2s. 4d. per gall. prompt.

ACID CRESYLIC 99/100.—3s. per gall. 97/99.—2s. 7d. to 2s. 8d. per gall. Pale, 95%, 2s. 5d. to 2s. 6d. per gall. Dark, 95%, 2s. 2d. to 2s. 3d.

ANTHRACENE.—A quality, 2½d. per unit. 40%, £5 per ton.

ANTHRACENE OIL, STRAINED.—8d. to 8½d. per gall. Unstrained, 7¾d. to 8d. per gall.

BENZOLE.—Prices at works; Crude, 8d. to 8½d. per gall.; Standard Motor, 1s. 0½d. to 1s. 1d. per gall.; 90%, 1s. 1½d. to 1s. 2d. per gall.; Pure, 1s. 5d. to 1s. 6d. per gall.

TOLUOLE.—90%, 1s. 4d. to 1s. 8d. per gall. Firm. Pure, 1s. 6d. to 1s. 10d. per gall.

XYLOL.—1s. 3d. to 2s. per gall. Pure, 2s. 4d. per gall.

CREOSOTE.—Cresylic, 20/24%, 10d. to 11d. per gall.; middle oil, 7¾d. to 8¼d. per gall. Heavy, 8¾d. to 8¼d. per gall. Standard specification, 7½d. to 7¾d. ex works. Salty, 7½d. per gall.

NAPHTHA.—Crude, 7¼d. to 7½d. per gall. Solvent 90/160, 9d. to 10¼d. per gall. Solvent 95/160, 1s. 3d. to 1s. 4d. per gall. Solvent 90/190, 9¼d. to 1s. 2d. per gall.

NAPHTHALENE CRUDE.—Drained Creosote Salts, £5 per ton. Whizzed, £8 per ton. Hot pressed, £8 10s. to £9 per ton.

NAPHTHALENE.—Crystals, £13 to £14 10s. per ton. Quiet. Flaked, £14 to £15 per ton, according to districts.

PITCH.—Medium soft, 62s. 6d. to 70s. per ton, f.o.b., according to district. Nominal.

PYRIDINE.—90/140, 5s. 6d. to 7s. per gall. 90/180, 3s. to 5s. per gall. Heavy, 2s. 6d. to 3s. per gall.

Intermediates and Dyes

In the following list of Intermediates delivered prices include packages except where otherwise stated:

ACID AMIDONAPHTHOL DISULPHO (1-8-2-4).—10s. 9d. per lb.

ACID ANTHRANILIC.—6s. per lb. 100%.

ACID BENZOIC.—1s. 8¾d. per lb.

ACID GAMMA.—4s. 6d. per lb.

ACID H.—3s. per lb.

ACID NAPHTHIONIC.—1s. 6d. per lb.

ACID NEVILLE AND WINTHER.—4s. 9d. per lb.

ACID SULPHANILIC.—8¾d. per lb.

ANILINE OIL.—8d. per lb. naked at works.

ANILINE SALTS.—8d. per lb. naked at works.

BENZALDEHYDE.—2s. 3d. per lb.

BENZIDINE BASE.—3s. 3d. per lb. 100% basis d/d.

BENZOIC ACID.—1s. 8¾d. per lb.

o-CRESOL 29/31° C.—5¼d. per lb.

m-CRESOL 98/100%.—2s. 3d. to 2s. 6d. per lb.

p-CRESOL 32/34° C.—2s. 3d. to 2s. 6d. per lb.

DICHLORANILINE.—2s. per lb.

DIMETHYLANILINE.—1s. 11d. per lb.

DINITROBENZENE.—8½d. per lb. naked at works. £75 per ton.

DINITROCHLORBENZENE.—£84 per ton d/d.

DINITROTOLUENE.—48/50° C. 8d. per lb. naked at works. 66/68° C. 9d. per lb. naked at works.

DIPHENYLAMINE.—2s. 10d. per lb. d/d.

a-NAPHTHOL.—2s. per lb. d/d.

B-NAPHTHOL.—10d. per lb. d/d.

a-NAPHTHYLAMINE.—1s. 3d. per lb.

B-NAPHTHYLAMINE.—3s. per lb.

o-NITRANILINE.—5s. 9d. per lb.

m-NITRANILINE.—3s. per lb. d/d.

p-NITRANILINE.—1s. 8d. per lb.

NITROBENZENE.—6d. per lb. naked at works.

NITRONAPHTHALENE.—1s. 3d. per lb.

R. SALT.—2s. 2d. per lb.

SODIUM NAPHTHIONATE.—1s. 8¾d. per lb. 100% basis d/d.

o-TOLUIDINE.—8d. per lb.

p-TOLUIDINE.—2s. 1¾d. per lb. naked at works.

m-XYLIDINE ACETATE.—2s. 6d. per lb. 100%.

N. W. ACID.—4s. 9d. per lb. 100%.

Wood Distillation Products

ACETATE OF LIME.—Brown, £10 5s. per ton. Good demand. Grey, £14 10s. to £15 per ton. Liquor, 9d. per gall.

CHARCOAL.—£6 to £9 per ton, according to grade and locality. Foreign competition severe.

IRON LIQUOR.—1s. 3d. per gall, 32° Tw. 1s. per gall. 24° Tw.

RED LIQUOR.—9d. to 10d. per gall.

WOOD CREOSOTE.—1s. 9d. per gall. Unrefined.

WOOD NAPHTHA, MISCIBLE.—3s. 11d. to 4s. 3d. per gall. Solvent, 4s. 3d. per gall.

WOOD TAR.—£4 to £5 per ton.

BROWN SUGAR OF LEAD.—£40 15s. per ton.

Rubber Chemicals

ANTIMONY SULPHIDE.—Golden, 6¼d. to 1s. 5¼d. per lb., according to quality; Crimson, 1s. 4d. to 1s. 6d. per lb., according to quality.

ARSENIC SULPHIDE, YELLOW.—1s. 9d. per lb.

BARYTES.—£3 10s. to £6 15s. per ton, according to quality.

CADMIUM SULPHIDE.—2s. 6d. to 2s. 9d. per lb.

CARBON BISULPHIDE.—£20 to £25 per ton, according to quantity.

CARBON BLACK.—5½d. per lb., ex wharf.

CARBON TETRACHLORIDE.—£45 to £50 per ton, according to quantity, drums extra.

CHROMIUM OXIDE, GREEN.—1s. 1d. per lb.

DIPHENYLGUANIDINE.—3s. 9d. per lb.

INDIARUBBER SUBSTITUTES, WHITE AND DARK.—5¾d. to 6¾d. per lb.

LAMP BLACK.—£35 per ton, barrels free.

LEAD HYPOSULPHITE.—9d. per lb.

LITHOPHONE, 30%.—£22 10s. per ton.

MINERAL RUBBER "RUBPRON."—£13 12s. 6d. per ton, f.o.r. London.

SULPHUR.—£9 to £11 per ton, according to quality.

SULPHUR CHLORIDE.—4d. to 7d. per lb., carboys extra.

SULPHUR PRECIP. B.P.—£47 10s. to £50 per ton.

THIOCARBAMIDE.—2s. 6d. to 2s. 9d. per lb., carriage paid.

THIOCARBANILIDE.—2s. 1d. to 2s. 3d. per lb.

VERMILION, PALE OR DEEP.—6s. to 6s. 3d. per lb.

ZINC SULPHIDE.—1s. per lb.

Pharmaceutical and Photographic Chemicals

ACID, ACETIC, PURE, 80%.—£39 per ton ex wharf London in glass containers.

ACID, ACETYL SALICYLIC.—2s. 5d. to 2s. 7d. per lb.

ACID, BENZOIC, B.P.—2s. to 3s. 3d. per lb., according to quantity. Solely ex Gum, 1s. 3d. to 1s. 6d. per oz., according to quantity.

ACID, BORIC B.P.—Crystal, 36s. to 39s. per cwt.; powder, 40s. to 43s. per cwt.; extra fine powder, 42s. per cwt., according to quantity. Carriage paid any station in Great Britain, in ton lots.
ACID, CAMPHORIC.—19s. to 21s. per lb.
ACID, CITRIC.—2s. to 2s. 1d. per lb. Less 5%.
ACID, GALLIC.—2s. 8d. per lb. for pure crystal, in cwt. lots.
ACID, PYROGALLIC, CRYSTALS.—7s. 3d. per lb. Resublimed, 8s. 3d. per lb.
ACID, SALICYLIC, B.P. PULV.—1s. 2d. to 1s. 3d. per lb. Technical.—10½d. to 11½d. per lb.
ACID, TANNIC B.P.—2s. 8d. to 2s. 10d. per lb.
ACID, TARTARIC.—1s. 4½d. per lb., less 5%.
ACETANILIDE.—1s. 5d. to 1s. 8d. per lb. for quantities.
AMIDOL.—7s. 6d. to 9s. per lb., d/d.
AMIDOPYRIN.—8s. to 8s. 3d. per lb.
AMMONIUM BENZOATE.—3s. 3d. to 3s. 6d. per lb., according to quantity. 18s. per lb. ex Gum.
AMMONIUM CARBONATE B.P.—£37 per ton. Powder, £39 per ton in 5 cwt. casks. Resublimated, 1s. per lb.
ATROPINE SULPHATE.—9s. per oz.
BARBITONE.—5s. 9d. to 6s. per lb.
BENZONAPHTHOL.—3s. 3d. per lb. spot.
BISMUTH CARBONATE.—11s. 4d. to 11s. 7d. per lb.
BISMUTH CITRATE.—10s. 4d. to 10s. 7d. per lb.
BISMUTH SALICYLATE.—10s. 7d. to 10s. 10d. per lb.
BISMUTH SUBNITRATE.—9s. 7d. to 9s. 10d. per lb.
BISMUTH NITRATE.—6s. 7d. to 6s. 10d. per lb.
BISMUTH OXIDE.—14s. 7d. to 14s. 10d. per lb.
BISMUTH SUBCHLORIDE.—14s. 4d. to 14s. 7d. per lb.
BISMUTH SUBGALLATE.—8s. 7d. to 8s. 10d. per lb. Extra and reduced prices for smaller and larger quantities of all bismuth salts respectively.
BISMUTHI ET AMMON LIQUOR.—Cit. B.P. in W. Qts. 1s. 1½d. per lb.; 12 W. Qts. 1s. 0½d. per lb.; 36 W. Qts., 1s. per lb.
BORAX B.P.—Crystal, 24s. to 27s. per cwt.; powder, 25s. to 28s. per cwt., according to quantity. Carriage paid any station in Great Britain, in ton lots.
BROMIDES.—Ammonium, 2s. to 2s. 1d. per lb.; potassium, 1s. 8¾d. to 1s. 9¾d. per lb.; sodium, 1s. 11d. to 2s. per lb.; granulated ½d. per lb. less; all spot. Large quantities at lower rates.
CALCIUM LACTATE.—1s. 2d. to 1s. 3d. per lb.
CAMPHOR.—Refined flowers, 2s. 11d. to 3s. per lb., according to quantity; also special contract prices.
CHLORAL HYDRATE.—3s. 2d. to 3s. 4d. per lb.
CHLOROFORM.—2s. 3d. to 2s. 7½d. per lb., according to quantity.
CREOSOTE CARBONATE.—6s. per lb.
ETHERS.—S.G. '730—11½d. to 1s. 0½d. per lb., according to quantity; other gravities at proportionate prices.
FORMALDEHYDE.—£39 per ton, in barrels ex wharf.
GUAIACOL CARBONATE.—4s. 9d. to 5s. per lb.
HEXAMINE.—2s. 3d. to 2s. 6d. per lb.
HOMATROPINE HYDROBROMIDE.—30s. per oz.
HYDRASTINE HYDROCHLORIDE.—English make offered at 120s. per oz.
HYDROGEN PEROXIDE (12 VOLS.).—1s. 4d. per gallon, f.o.r. makers' works, naked. Winchesters, 2s. 11d. per gall. B.P., 10 vols., 2s. to 2s. 3d. per gall.; 20 vols., 4s. per gall.
HYDROQUINONE.—3s. 9d. to 4s. per lb., in cwt. lots.
HYPOPHOSPHITES.—Calcium, 3s. 6d. per lb., for 28 lb. lots; potassium, 4s. 1d. per lb.; sodium, 4s. per lb.
IRON AMMONIUM CITRATE.—B.P., 2s. 5d. to 2s. 8d. per lb. Green, 2s. 8d. to 3s. 1d. per lb.; U.S.P., 2s. 6d. to 2s. 9d. per lb.
IRON PERCHLORIDE.—18s. to 20s. per cwt., according to quantity.
IRON QUININE CITRATE.—B.P., 8¾d. to 9¼d. per oz.
MAGNESIUM CARBONATE.—Light commercial, £31 per ton net.
MAGNESIUM OXIDE.—Light commercial, £62 10s. per ton, less 2½%; Heavy commercial, £21 per ton, less 2½%; in quantity lower; Heavy Pure, 2s. to 2s. 3d. per lb., in 1 cwt. lots.
MENTHOL.—A.B.R. recrystallised B.P., 17s. per lb. net for January delivery; Synthetic, 9s. to 10s. per lb.; Synthetic detached crystals, 9s. to 12s. 6d. per lb., according to quantity; Liquid (95%), 9s. 6d. per lb.
MERCURIALS B.P.—Up to 1 cwt lots, Red Oxide, 7s. 6d. to 7s. 7d. per lb., levig., 7s. to 7s. 1d. per lb.; Corrosive Sublimate, Lump, 5s. 9d. to 5s. 10d. per lb., Powder, 5s. 2d. to 5s. 3d. per lb.; White Precipitate, Lump, 5s. 11d. to 6s. per lb., Powder, 6s. to 6s. 1d. per lb., Extra Fine, 6s. 1d. to 6s. 2d. per lb.; Calomel, 6s. 4d. to 6s. 5d. per lb.; Yellow Oxide, 6s. 10d. to 6s. 11d. per lb.; Persulph., B.P.C., 6s. 1d. to 6s. 2d. per lb.; Sulph. nig., 5s. 10s. to 5s. 11d. per lb. Special prices for larger quantities.
METHYL SALICYLATE.—1s. 5d. to 1s. 9d. per lb.
METHYL SULPHONAL.—9s. to 9s. 3d. per lb.
METOL.—9s. to 11s. 6d. per lb. British make.
PARAFORMALDEHYDE.—1s. 9d. per lb. for 100% powder.
PARALDEHYDE.—1s. 1d. to 1s. 4d. per lb.
PHENACETIN.—2s. 6d. to 2s. 9d. per lb.
PHENAZONE.—4s. to 4s. 3d. per lb.
PHENOLPHTHALEIN.—6s to 6s. 3d. per lb.
POTASSIUM BITARTRATE 99/100% (Cream of Tartar).—102s. per cwt., less 2½ per cent.
POTASSIUM CITRATE.—B.P.C., 2s. 5d. to 2s. 6d. per lb.; U.S.P., 2s. 3d. to 2s. 6d. per lb.
POTASSIUM FERRICYANIDE.—1s. 9d. per lb., in cwt. lots.
POTASSIUM IODIDE.—16s. 8d. to 17s. 2d. per lb., according to quantity.
POTASSIUM METABISULPHITE.—6d. per lb., 1-cwt. kegs included, f.o.r. London.
POTASSIUM PERMANGANATE.—B.P. crystals, 5½d. per lb., spot.
QUININE SULPHATE.—1s. 8d. to 1s. 9d. per oz., bulk in 100 oz. tins.
RESORCIN.—2s. 10d. to 3s. per lb., spot.
SACCHARIN.—55s. per lb.; in quantity lower.
SALOL.—2s. 4d. per lb.
SODIUM BENZOATE, B.P.—1s. 8d. to 1s. 11d. per lb.
SODIUM CITRATE, B.P.C., 1911.—2s. to 2s. 3d. per lb., B.P.C., 1923—2s. 4d. to 2s. 5d. per lb. U.S.P., 2s. 3d. to 2s. 6d. per lb., according to quantity.
SODIUM FERROCYANIDE.—4d. per lb., carriage paid.
SODIUM HYPOSULPHITE, PHOTOGRAPHIC.—£15 per ton, d/d consignee's station in 1-cwt. kegs.
SODIUM NITROPRUSSIDE.—16s. per lb.
SODIUM POTASSIUM TARTRATE (ROCHELLE SALT).—90s. to 95s. per cwt. Crystals, 5s. per cwt. extra.
SODIUM SALICYLATE.—Powder, 1s. 7d. to 1s. 9d. per lb. Crystal, 1s. 8d. to 1s. 10d. per lb.
SODIUM SULPHIDE, PURE RECRYSTALLISED.—10d. to 1s. 1d. per lb.
SODIUM SULPHITE, ANHYDROUS.—£27 10s. to £28 10s. per ton, according to quantity. Delivered U.K.
SULPHONAL.—6s. 9d. to 7s. per lb.
TARTAR EMETIC, B.P.—Crystal or powder, 2s. 1d. to 2s. 2d. per lb.
THYMOL.—Puriss., 9s. 6d. to 9s. 9d. per lb., according to quantity. Firmer. Natural, 14s. 3d. per lb.

Perfumery Chemicals

ACETOPHENONE.—7s. per lb.
AUBEPINE (EX ANETHOL).—10s. per lb.
AMYL ACETATE.—2s. 6d. per lb.
AMYL BUTYRATE.—4s. 9d. per lb.
AMYL SALICYLATE.—2s. 9d. per lb.
ANETHOL (M.P. 21/22° C.).—5s. 3d. per lb.
BENZYL ACETATE FROM CHLORINE-FREE BENZYL ALCOHOL.—2s. per lb.
BENZYL ALCOHOL FREE FROM CHLORINE.—2s. per lb.
BENZALDEHYDE FREE FROM CHLORINE.—2s. 6d. per lb.
BENZYL BENZOATE.—2s. 6d. per lb.
CINNAMIC ALDEHYDE NATURAL.—15s. 6d. per lb.
COUMARIN.—9s. 9d. per lb.
CITRONELLOL.—13s. 6d. per lb.
CITRAL.—8s. 3d. per lb.
ETHYL CINNAMATE.—6s. per lb.
ETHYL PHTHALATE.—2s. 6d. per lb.
EUGENOL.—8s. 3d. per lb.
GERANIOL (PALMAROSA).—20s. per lb.
GERANIOL.—6s. to 10s. per lb.
HELIOTROPINE.—4s. 9d. per lb.
ISO EUGENOL.—13s. per lb.
LINALOL.—Ex Bois de Rose, 15s. per lb. Ex Shui Oil, 10s. 6d. per lb.
LINALYL ACETATE.—Ex Shui Oil, 14s. 6d. per lb. Ex Bois de Rose, 18s. 6d. per lb.
METHYL ANTHRANILATE.—8s. 6d. per lb.
METHYL BENZOATE.—4s. per lb.
MUSK KETONE.—35s. per lb.
MUSK XYLOL.—7s. per lb.
NEROLIN.—3s. 6d. per lb.
PHENYL ETHYL ACETATE.—11s. per lb.
PHENYL ETHYL ALCOHOL.—10s. 6d. per lb.
RHODINOL.—35s. per lb.
SAFROL.—1s. 6d. per lb.
TERPINEOL.—1s. 6d. per lb.
VANILLIN.—16s. 6d. per lb.

Essential Oils

ALMOND OIL.—Foreign S.P.A., 10s. 6d. per lb.
ANISE OIL.—2s. 9d. per lb.
BERGAMOT OIL.—24s. per lb.
BOURBON GERANIUM OIL.—16s. per lb.
CAMPHOR OIL.—9d. per lb.
CANANGA OIL, JAVA.—12s. 9d. per lb.
CINNAMON OIL LEAF.—6s. 9d. per oz.
CASSIA OIL, 80/85%.—8s. per lb.
CITRONELLA OIL.—Java, 1s. 10d. per lb., c.i.f. U.K. port. Ceylon, pure, 1s. 9d. per lb.
CLOVE OIL.—5s. 6d. per lb.
EUCALYPTUS OIL, AUSTRALIAN.—2s. 1d. per lb.
LAVENDER OIL.—Mont Blanc, 38/40%, Esters, 16s. per lb.
LEMON OIL.—9s. 6d. per lb.
LEMONGRASS OIL.—4s. 3d. per lb.
ORANGE OIL, SWEET.—14s. per lb.
OTTO OF ROSE OIL.—Anatolian, 35s. per oz. Bulgarian, 62s. 6d. per oz.
PALMA ROSA OIL.—12s. 6d. per lb.
PEPPERMINT OIL.—Wayne County, 15s. 9d. per lb.; Japanese, 7s. 3d. per lb.
PETITGRAIN.—7s. 3d. per lb. Sandalwood, Mysore, 26s. 6d. per lb., 90/95%, 16s. 6d. per lb.

London Chemical Market

The following notes on the London Chemical Market are specially supplied to* THE CHEMICAL AGE *by Messrs. R. W. Greeff & Co., Ltd., and Messrs. Chas. Page & Co., Ltd., and may be accepted as representing these firms' independent and impartial opinions.

LONDON, *April* 19, 1928.

BUSINESS has opened out after the holidays in a quietly satisfactory state and while the volume of business passing is not of any great dimensions yet the undertone is firm and price movements, if any, are in the upward direction. Export trade continues fair with an upward demand.

General Chemicals

ACETONE is maintained at the higher level of £65 to £67 per ton and is in short supply.

ACID ACETIC continues steady at £37 to £38 per ton for 80% technical. Demand fair.

ACID CITRIC continues firm at about 1s. 11d. to 2s. per lb. less 5%. Producers are sparing in their quotations.

ACID FORMIC continues unchanged at £47 per ton for 85% technical. Demand is improving.

ACID LACTIC is a bright market at £43 per ton for 50% by weight, pale quality. It is reported that the B.P. quality has been removed from the dutiable list.

ACID OXALIC is in fair request and price continues steady from £31 to £32 per ton.

ACID TARTARIC has been in fair demand and price remains firm at about 1s. 4½d. to 1s. 5d per lb.

AMMONIUM CHLORIDE is a shade easier with a poor demand.

ALUMINA SULPHATE is firmer and price is strong at £5 17s. 6d. to £6 2s. 6d. per ton for 17/18% material.

ARSENIC.—Unchanged although producers show little anxiety about selling for forward, the price can still be taken as nominally about £19 per ton in London.

BARIUM CHLORIDE.—Only a moderate market at about £8 to £8 5s. per ton.

COPPER SULPHATE continues extremely firm at £26 to £26 10s. per ton and a fair volume of business has been transacted.

CREAM OF TARTAR.—The market here is well held and prices are likely to go higher. Present price is quoted at £104 per ton for 99/100% less usual discount.

EPSOM SALTS.—Unchanged.

FORMALDEHYDE is a moderate market at £39 per ton in usual packages.

LEAD ACETATE has been a bright spot and quite a good business is reported at round about £41 to £42 per ton for white and £1 per ton less for brown.

LEAD NITRATE.—Unchanged at £37 per ton with a good demand.

LIME ACETATE.—Unchanged.

METHYL ACETONE is in short supply and quoted at about £56 to £58 per ton for available 45% material.

POTASSIUM CARBONATE AND CAUSTIC.—Unchanged.

POTASSIUM CHLORATE.—Continues active and price is unchanged at £30 per ton, export demand is good.

POTASSIUM PERMANGANATE.—Price is maintained at about 5½d. per lb. for B.P. quality with commercial quality at about ¼d. per lb. less.

POTASSIUM PRUSSIATE.—Continues active and is quoted at £39 to £63 per ton according to quantity.

SODIUM ACETATE.—Price is firm at £22 per ton and supplies continue scarce.

SODIUM BICHROMATE.—Unchanged.

SODIUM CHLORATE.—The good demand continues and the price holds firm at from £28 to £30 per ton.

SODIUM HYPOSULPHITE.—Unchanged at British makers' figures.

SODIUM NITRITE.—Quite a good business has been transacted at round about £20 to £22 per ton.

SODIUM PHOSPHATE is firm and somewhat scarce at £13 per ton.

SODIUM PRUSSIATE is unchanged at the present market price of 4½d. per lb. with makers fairly well booked for forward delivery.

SODIUM SULPHIDE.—Unchanged.

TARTAR EMETIC continues firm at 11½d. to 11¾d. per lb. with a sharp demand.

ZINC SULPHATE is active and makers hold firmly to their price at £12 10s. to £13 per ton.

Coal Tar Products

The market for coal tar products is very quiet, little business being transacted.

90's BENZOL is weaker, and can be bought at about 1s. 1d. to 1s. 2d. per gallon, on rails, while the motor quality is quoted at 1s. to 1s. 1d. per gallon.

PURE BENZOL is worth about 1s. 4½d. to 1s. 5½d. per gallon, on rails, at works.

CREOSOTE OIL is also weaker, although few parcels are available The price is about 7d. per gallon, on rails, in the North, and 7½d. per gallon in London.

CRESYLIC ACID is weaker, the 98/100% quality being quoted at 2s. 6d. per gallon at works naked, and the dark quality 95/97% at 1s. 11d. per gallon.

SOLVENT NAPHTHA is unchanged at about 8d. per gallon on rails in the Provinces.

HEAVY NAPHTHA is quoted at about 8¾d. per gallon naked, at makers' works.

NAPHTHALENES are unchanged, the 74/76 quality being quoted at £6 10s. per ton, and the 76/78 quality at £7 10s. to £8 per ton.

PITCH is quiet, but prices are well maintained.

Latest Oil Prices

LONDON, April 18.—LINSEED OIL steady at an occasional decline of 2s. 6d. per ton. Spot, ex mill, £31; April, £30; May, £30 7s. 6d.; May-August, £30 15s.; and September-December, £31 17s. 6d., naked. RAPE OIL, steady. Crude, extracted, £31; technical, refined, £43, naked, ex wharf. COTTON OIL quiet. Egyptian, crude, £35; refined common edible, £40; and deodorised, £42 per ton, naked. TURPENTINE slow. American, spot, 38s. 9d.; May-June, 39s.; and July-December, 39s. 3d. per cwt.

HULL, April 18.—LINSEED OIL.—Spot and April, £30; May-August, £30 10s.; September-December, £31 10s. per ton, naked. COTTON OIL.—Bombay, crude, £32; Egyptian, crude (new), £34; edible, refined, £37 15s.; technical, £36; deodorised, £39 15s. per ton, naked. PALM KERNEL OIL.—Crushed, 5½ per cent., £38 per ton, naked. GROUNDNUT OIL.—Crushed/extracted, £40; deodorised, £44 per ton. SOYA OIL.—Extracted and crushed, £33 5s.; deodorised, £36 15s. per ton. RAPE OIL.—Crude/extracted, £39 10s.; refined, £41 10s. per ton. TURPENTINE, CASTOR OIL, and COD OIL unaltered.

Nitrogen Products

Export.—The continental advices report a vast increase in consumption of sulphate of ammonia. As a consequence, the price has remained firm at £10 to £10 2s. 6d. per ton f.o.b. U.K. port in single bags. In view of the increased synthetic production later in the year, there has been very little interest for forward positions. As the stocks to be carried over into the new season will probably be very small, it seems unlikely that the drop in price at the end of the season will be as extensive as that of last year.

Home.—The home demand continues strong. There has been a falling off in the South of England, but in the North and in Ireland and Scotland the seasonal demand is at its height. The present price of £10 13s. per ton, delivered in six-ton lots, remains unchanged.

Nitrate of Soda.—On account of fresh arrivals, there has been a reaction in the European market, and prices range from £9 15s. to £10 5s. per ton according to market. The price in Chile f.a.s. for prompt shipment has also been slightly easier, fluctuating from 16s. 4d. to 16s. 7d. per metric quintal.

South Wales By-Products

WITH the exception of pitch, which has strengthened, there is very little change in by-product activities in South Wales. The demand for pitch has widened, and, with more buyers in the market, the price has advanced and is now round about 62s. to 67s. f.o.r. Solvent naphtha does not appear to have been affected by the reduction in petrol prices and continues to change hands at from 8d. to 9d. per gall on rail. Creosote is more steady, but prices are unchanged at from 7¼d. to 8¼d. per gallon f.o.r. maker's works. Crude tar continues easy round about 50s. per ton, f.o.r., while refined tars, which have a fair demand, are unchanged. Patent fuel and coke exports are slightly better, but prices are unchanged, patent fuel, Cardiff, selling at from 21s. to 23s. per ton, ex-ship, and Swansea at 20s. 3d. to 20s. 9d. per ton, ex-ship. Coke, best foundry, sells at from 32s. 6d. to 37s. per ton, and other sorts from 25s. to 32s. 6d. per ton.

Crisis in Jamaican Logwood Industry

OWING to the decline during the past few years in the trade in logwood products and the loss of the extract and hematin crystals trade to the United States and France, the Jamaican logwood industry is in a difficult position, and there is a movement to obtain Government co-operation in order to improve matters. The use of logwood dyes for cotton has been greatly affected by the lower cost of sulphur blacks, which hence enjoy increasing use. The demand for logwood black on weighted silk has also declined, with the growing use of artificial silk.

Scottish Chemical Market

The following notes on the Scottish Chemical Market are specially supplied to* THE CHEMICAL AGE *by Messrs. Charles Tennant and Co., Ltd., Glasgow, and may be accepted as representing the firm's independent and impartial opinions.

Glasgow, April 18, 1928.

SINCE the return to business there has been quite an appreciable amount of inquiry going around for heavy chemicals, but business on the whole has been quiet, and there is no change of any importance to record.

Industrial Chemicals

ACETONE, B.G.S.—£64 to £67 per ton, ex store, according to quantity.

ACID ACETIC.—98/100% glacial, £56 to £67 per ton, according to quality and packing, c.i.f. U.K. ports; 80% pure, £37 10s. per ton, ex wharf; 80% technical, £37 10s. per ton, ex wharf.

ACID BORIC.—Crystals, granulated or small flakes, £30 per ton. Powdered, £32 per ton, packed in bags, carriage paid U.K. stations.

ACID CARBOLIC, ICE CRYSTALS.—Rather dearer. Now quoted 6¾d. per lb., delivered.

ACID CITRIC, B.P.—Quoted 1s. 11¾d. per lb., less 5%, ex store, spot delivery. Rather cheaper to come forward.

ACID HYDROCHLORIC.—Usual steady demand. Arsenical quality 4s. per carboy. Dearsenicated quality 5s. 6d. per carboy, ex works, full wagon loads.

ACID NITRIC.—80° quality, £24 10s. per ton, ex station, full truck loads.

ACID OXALIC, 98/100%.—On offer from the Continent at 3¼d. per lb., ex wharf. Spot material quoted 3½d. per lb., ex store. In better demand.

ACID SULPHURIC.—£2 15s. per ton, ex works, for 144° quality; £5 15s. per ton for 168° quality. Dearsenicated quality, 20s. per ton extra.

ACID TARTARIC, B.P. CRYSTALS.—Nominally 1s. 4½d. per lb., less 5%, ex wharf, but demand not so great, and some spot parcels could probably be obtained for less.

ALUMINA SULPHATE, 17/18%, IRON FREE.—Quoted £5 10s. per ton, c.i.f. U.K. ports, prompt shipment. Spot material available at about £5 15s. per ton, ex store.

ALUM, LUMP POTASH.—Spot material available at about £9 per ton, ex store. Crystal meal quoted £8 10s. per ton, ex store. Lump quality on offer from the Continent at £8 5s. per ton, c.i.f. U.K. ports.

AMMONIA, ANHYDROUS.—Unchanged at about 9d. per lb., carriage paid. Containers extra and returnable.

AMMONIA CARBONATE.—Lump, £37 per ton. Powdered, £39 per ton, packed in 5 cwt. casks, delivered or f.o.b. U.K. ports.

AMMONIA LIQUID, 880°.—Unchanged at about 2½d. to 3d. per lb., delivered, according to quantity.

AMMONIA MURIATE.—Grey galvanisers' crystals of British manufacture quoted £22 to £23 per ton, ex station. Continental, about £19 5s. per ton, c.i.f. U.K. ports. Fine white crystals, quoted £17 5s. per ton, c.i.f. U.K. ports.

ARSENIC, WHITE POWDERED.—Quoted £19 7s. 6d. per ton, ex wharf, prompt despatch from mines. Spot material, available at £20 5s. per ton, ex store.

BARIUM CARBONATE, 98/100%.—English material on offer at £7 5s. per ton, ex store. Continental, quoted £7 per ton, c.i.f. U.K. ports.

BARIUM CHLORIDE, 98/100%.—Large white crystals, quoted £6 17s. 6d. per ton, c.i.f. U.K. ports.

BLEACHING POWDER.—British manufacturers' contract price to consumers, £6 12s. 6d. per ton, delivered, minimum 4-ton lots. Continental on offer at £6 10s. per ton, ex wharf.

CALCIUM CHLORIDE.—British manufacturers' price, £4 5s. to £4 15s. per ton, according to quantity and point of delivery. Continental material on offer at £3 12s. 6d. per ton, c.i.f. U.K. ports.

COPPERAS, GREEN.—Unchanged, at about £3 10s. per ton, f.o.r. works or £4 12s. 6d. per ton, f.o.b. U.K. ports for export.

COPPER SULPHATE.—Continental price unchanged, at about £25 per ton, c.i.f. U.K. ports. Some British material available at about £25 per ton, ex store.

FORMALDEHYDE, 40%.—Offered at £35 10s. per ton, c.i.f. U.K. ports. Spot material quoted £39 per ton, ex store.

GLAUBER SALTS.—English material unchanged at £4 per ton, ex store or station. Continental quoted £2 15s. per ton, c.i.f. U.K. ports.

LEAD, RED.—Imported material on offer at £31 per ton, ex store.

LEAD, WHITE.—Quoted £31 10s. per ton, ex store.

LEAD ACETATE.—White crystals quoted £39 15s. per ton, c.i.f. U.K. ports. Brown, £38 10s. per ton, c.i.f. U.K. ports. Spot material, on offer at £42 15s. per ton, ex store, spot delivery.

MAGNESITE, GROUND CALCINED.—Quoted £8 10s. per ton, ex store, in moderate demand.

POTASSIUM BICHROMATE.—4½d. per lb. delivered, minimum 4-ton lots. Under 4-ton lots ½d. per lb. extra.

POTASSIUM CARBONATE, 96/98%.—Rather scarce for immediate delivery. Quoted £25 10s. per ton, ex wharf. Spot material about £26 10s. per ton, ex store.

POTASSIUM CHLORATE, 99/100%.—Rather firmer and powdered quality now offered at £25 15s. per ton, c.i.f. U.K. ports. Crystals 30s. per ton more.

POTASSIUM NITRATE.—Refined granulated quality quoted at £19 2s. 6d. per ton, c.i.f. U.K. ports. Spot material on offer at about £20 10s. per ton, ex store.

POTASSIUM PERMANGANATE, B.P. CRYSTALS.—Quoted 5¼d. per lb., ex wharf.

POTASSIUM PRUSSIATE (YELLOW).—Unchanged at about 6½d. per lb., ex store, spot delivery. Offered from the Continent at 6¾d. per lb.

SODA CAUSTIC.—Powdered, 98/99%, £17 7s. 6d. per ton; solid, 76/77%, £14 10s. per ton; 70/72%, £13 12s. 6d. per ton, minimum 4-ton lots, carriage paid on contract. Spot material 10s. per ton extra.

SODIUM ACETATE.—In good demand and spot material scarce. Quoted £20 5s. per ton, ex store.

SODIUM BICARBONATE.—Refined recrystallised £10 10s. per ton, ex quay or station. M.W. quality 30s. per ton less.

SODIUM BICHROMATE.—Quoted 3d. per lb., delivered buyers' works, minimum 4-ton lots. Under 4 and over 2-ton lots 3 1/16d. per lb. Under 2-ton lots 3¼d. per lb.

SODIUM CARBONATE (SODA CRYSTALS).—£5 to £5 5s. per ton, ex quay or station. Powdered or pea quality 27s. 6d. per ton extra. Light soda, £7 3s. 9d. per ton, ex quay, minimum 4-ton lots, with various reductions for contracts.

SODIUM HYPOSULPHITE.—Large crystals of English manufacture quoted £8 17s. 6d. per ton, ex station minimum 4-ton lots. Pea crystals on offer at £14 15s. per ton, ex station, minimum 4-ton lots.

SODIUM NITRATE.—Quoted £11 per ton, ex store.

SODIUM NITRITE, 100%.—Quoted £19 10s. per ton, ex store.

SODIUM PRUSSIATE (YELLOW).—In moderate demand and price unchanged at about 4½d. per lb., ex store. Offered for prompt shipment from the Continent at 4½d. per lb., ex wharf.

SODIUM SULPHATE (SALTCAKE).—Prices 50s. per ton ex works for unground quality, 52s. 6d. per ton, delivered. Ground quality 3s. 6d. per ton extra.

SODIUM SULPHIDE.—Prices now as follows: Solid, 60/62%, £9 per ton; broken, 60/62%, £10 per ton; crystals, 30/32%, £9 2s. 6d. per ton, delivered buyers' works on contract, minimum 4-ton lots. Special prices for some consumers. Spot material 5s. per ton extra.

SULPHUR.—Flowers, £12 per ton; roll, £10 15s. per ton; rock, £10 12s. 6d. per ton; floristella, £9 10s. per ton; ground American, £9 5s. per ton. ex store. Prices nominal.

ZINC CHLORIDE.—British material, 98/100%, quoted £24 15s. per ton, f.o.b. U.K. ports, 98/100%, solid on offer from the Continent at about £21 15s. per ton, c.i.f. U.K. ports. Powdered 20s. per ton extra.

ZINC SULPHATE.—Continental material quoted £11 15s. per ton, ex wharf.

NOTE.—The above prices are for bulk business and are not to be taken as applicable to small parcels.

Annual Conference of the Institute of Quarrying

THE annual conference of the Institute of Quarrying will be held this year at Blackpool, from June 4-9, when the following papers will be included in those read: "Commercial Silica Sands," by Mr. W. J. Rees; "Silica—Commercial Properties and Markets," by Professor P. G. H. Boswell; "Some Technical Aspects of Lime-burning," by Mr. C. Wood; "Modern Blasting Methods" (illustrated by film), by Dr. W. Cullen. An exhibition of quarrying and builders' plant and machinery will be held in Blackpool during the same period. Among the firms who have already booked space are Imperial Chemical Industries, Ltd., Berry Wiggins and Co., Ltd., Gwynnes Pumps, Ltd., Allen-Liversidge, Ltd., The British Road Tar Association, Petters, Ltd., Hadfields, Ltd., and Beecroft and Partners, Ltd.

Manchester Chemical Market

(From Our Own Correspondent.)

Manchester, April 19, 1928.

Conditions in the chemical market here during the past week have been more active than at last report, and the demand for chemicals generally has been about up to its pre-Easter standard, with a fair volume of enquiry in the market both for prompt and forward deliveries, although the complaint is still voiced by sellers that, for the most part, individual parcels are relatively small in weight, with competition very keen for any prospective business. Steady deliveries continue to be made against contracts.

Heavy Chemicals

A fair amount of enquiry is moving in the case of bicarbonate of soda, and home trade prices for this material are fully maintained at £10 10s. per ton. Offers of nitrite of soda are steady at between £19 and £19 5s. per ton, moderate buying interest being displayed. Only a quiet trade is being transacted in phosphate of soda, and in this case somewhat lower prices than of late are being quoted, these ranging from about £12 to £12 10s. per ton. Interest in caustic soda keeps up at a fairly satisfactory level, and quotations are well held at from £13 7s. 6d. to £15 7s. 6d. per ton, according to quality. There has been virtually no change in the position of hyposulphite of soda, current offers being at round £16 10s. per ton for the photographic material and £9 5s. for the commercial, the tendency if anything being rather easy on a limited demand. Sulphide of sodium, also, is in somewhat small request, but values are held at round £10 per ton for the 60–65 per cent concentrated solid and from £7 15s. to £8 for the commercial crystals. A fair amount of interest is being shown in bichromate of soda, and prices are steady at up to 3½d. per lb. Chlorate of soda, remains rather quiet, and quotations are on the easy side at 2¾d. to 2⅞d. per lb. Alkali is selling in moderate quantities, and there is a fair call, also, for bleaching powder, current quotations on a contract basis being at £6 2s. 6d. and £7 per ton respectively. Prussiate of soda keeps steady, and meets with some enquiry at from 4¼d. to 4⅜d. per lb. A quiet trade is passing in saltcake at £2 12s. 6d. per ton in contract lots.

Among the potash products bichromate is maintained at round 4¼d. per lb., a fair business in this material being reported. Yellow prussiate of potash continues to be quoted here at from 6¼d. to 6¾d. per lb., according to quantity, sales being moderate. Chlorate of potash is selling rather slowly and the price tendency seems to be easy, about 3d. per lb. or a shade below this figure being usually quoted. Permanganate of potash is quiet, and values are rather uncertain, down to 5d. per lb. being asked this week for pharmaceutical material and from 4d. to 4¼d. for commercial. Caustic potash remains firm, and is in fair demand at £33 5s. per ton for prompt delivery of one to five-ton lots. Carbonate of potash is on the quiet side, with quotations ranging from £25 5s. to £25 10s. per ton.

Comparatively little buying interest is being shown in arsenic at the moment, although at £17 to £17 5s. per ton, at the mines, for white powdered, Cornish makes values are pretty much as they have been during the past few weeks. A quietly steady trade is being put through in sulphate of copper, both for home use and for shipment, and up to £27 per ton is being currently quoted. The acetates of lime are a shade easier than they have been of late, and the demand in this section is quiet; offers of grey are at £15 10s. to £16 per ton and brown at about £9 15s. The tendency in the case of the acetates of lead, also, is somewhat easier, white now being quoted at from £39 10s. to £40 per ton and brown at £38 10s. Buying interest in nitrate of lead is subdued, but prices are practically unchanged on the week at £37 per ton.

Acids and Tar Products

A quietly steady trade is passing in acetic acid, and prices in this section are quite firm at round £66 per ton for glacial and about £37 10s. per ton for the commercial 80 per cent. product. Oxalic acid meets with some enquiry, and values are steady at from 3¼d. to 3½d. per lb., according to quantity. Tartaric acid is not very active, but recent levels are fully maintained, from 1s. 4¼d. to 1s. 4⅜d. per lb. being quoted on this market during the past few days. Offers of citric acid are well held at up to 2s. per lb.

In the by-products section pitch is on the quiet side, but quotations are fairly steady at about £3 2s. 6d. per ton, f.o.b. Solvent naphtha is rather easy at round 10½d. per gallon, and the demand for this is only moderate. Carbolic acid moves off in fair quantities at 6¼d. to 6½d. per lb., with crude quoted at 2s. 4d. to 2s. 6d. per gallon.

Company News

Broken Hill Proprietary Co.—A half-yearly dividend of 1s. per share has been declared payable on May 16.

J. Mandleberg and Co.—The net profits for the year 1927 were £71,326 and a dividend of 10 per cent. is proposed.

Erinoid.—On account of the year ending August 31, 1928, an interim dividend of 3 per cent.; less tax, has been declared, payable on May 7.

British South African Explosives Co.—An interim dividend for the year 1927 is announced at the rate of 16 per cent., free of tax, payable on May 1.

Amalgamated Zinc (De Bavay's).—A dividend is announced at the rate of 8 per cent. per annum for the six months ended December 31 last.

Borax Consolidated.—A dividend has been declared at the rate of 6 per cent. per annum, less income tax at 4s. in the £, on the preferred ordinary shares in respect of the half-year ending March 31, 1928.

Imperial Chemical Industries, Ltd.—The directors have decided to recommend a final dividend on the ordinary shares of 5 per cent. (actual), making 8 per cent. for the year ended December 31 last, and a dividend on the deferred shares of 1¾ per cent. (actual), both less income tax at 4s. in the £, payable on June 15.

Tarapaca and Tocopilla Nitrate Co.—The report for the year ended December 31 last, states that the year's trading resulted in a gross profit of £60,059, and after deduction of London expenses, debenture interest, etc., a net profit remains of £23,843. The directors recommend a dividend of 5 per cent. (less income-tax at 4s.), leaving £23,119 to be carried forward.

Swedish Match Co.—It is announced that the profits for 1927 amounted to Kr.40,436,615, as against Kr.32,326,401 for 1926. The directors propose that a final dividend of 10 per cent. be paid on 1,800,000 shares, making, with the interim dividend of 5 per cent. paid in October last, 15 per cent. for the year, the same as for 1926, leaving Kr. 24,138,967 to be carried forward.

Babcock and Wilcox.—The report for the year ended December 31 last, states that the net profit amounts to £743,820, to which is added the balance brought forward of £161,442, making £905,262. A final dividend of 8 per cent. on the ordinary shares is recommended, making 15 per cent. for the year, placing to the reserve fund £100,000, granting to the staff pension fund £20,000, and carrying forward £125,361.

Chemical Trade Inquiries

The following inquiries, abstracted from the "Board of Trade Journal," have been received at the Department of Overseas Trade (Development and Intelligence), 35, Old Queen Street, London, S.W.1. British firms may obtain the names and addresses of the inquirers by applying to the Department (quoting the reference number and country), except where otherwise stated.

Iodum, B.P.—The Director-General, India Store Department, Belvedere Road, Lambeth, London, S.E.1, invites tenders for 1,180 lb. iodum, B.P. Tenders (with sample) due May 4. Forms of tender obtainable from the above at a fee (which will not be returned) of 5s.

Assay and Metallurgical Supplies.—A firm of wholesale dealers in chemicals and drugs in Winnipeg desire to represent British makers, for the mining industry in the Province of Manitoba. (Repetition of Reference No. 145.) (Reference No. 341.)

Chemicals.—A New Zealand firm, with branches in Wellington, Auckland, Christchurch, Dunedin, etc., wishes to represent British manufacturers. (Reference No. 345.)

Sulphate of Copper.—A British resident in Algiers desires to obtain the representation of British exporters. (Reference No. 366.)

TO RESIST

CORROSION

THERE is a Firth Stainless Steel for every application where those twin menaces, corrosion and contamination, are normally dangerous or unwanted, whether it be a mechanism that operates in a "Corrosion zone"—a keen-edged, food-cutting tool which works in food, tobacco or fruit juices—a chemical vat or the blading system of a turbine—one or other of the Firth Stainless Steels will fulfil every required purpose.

For highly stressed parts Firth Stainless Steel F.G. is often used.

For parts that must be hardened and lightly tempered, the F.H. grade of Firth Stainless Steel is suitable. This is the Steel which is used for Sheffield's most famous cutlery.

For Pressing and Stamping work and for maximum resistance to chemical attack, Firth "Staybrite," the super-rustless super-malleable steel is fast becoming the accepted standard material.

TEMPERATURE

SIDE by side with their widespread development of Stainless Steels, Firths have for many years been developing and marketing Heat Resisting Steels.

There is available a wide range of these special steels, each suited to a particular set of imposed conditions.

Wherever mechanisms or parts of plant have to operate under the drastic conditions imposed by high temperatures, exposed to flames or hot complex industrial gases—wherever "scaling" rapidly impairs the strength of such details as flues or furnace fittings—wherever ordinary steels have to make up for loss in tensile strength at high temperature by mere bulk—Firth Heat Resisting Steels will solve the problem successfully.

Specify Firth H.R. Crown steel which combines the optimum tensile strength with resistance to "scaling" at elevated temperature.

FIRTH STAINLESS & HEAT-RESISTING STEELS

THOS. FIRTH & SONS, LTD SHEFFIELD

Commercial Intelligence

The following are taken from printed reports, but we cannot be responsible for any errors that may occur.

County Court Judgments

[NOTE.—The publication of extracts from the "Registry of County Court Judgments" does not imply inability to pay on the part of the persons named. Many of the judgments may have been settled between the parties or paid. Registered judgments are not necessarily for debts. They may be for damages or otherwise, and the result of bona-fide contested actions. But the Registry makes no distinction of the cases. Judgments are not returned to the Registry if satisfied in the Court books within twenty-one days. When a debtor has made arrangements with his creditors we do not report subsequent County Court judgments against him.]

COBLEY AND CARTER, Atlas Chemical Works, 4, Lower Moss Lane, Chester Road, Manchester, manufacturing chemists. (C.C., 21/4/28.) £14 12s. 5d. March 8.

FARNSWORTH (RICHARD), LTD., Lumsdale Mills, Matlock, dyers and bleachers. (C.C., 21/4/28.) £48 14s. 4d. March 8.

GREENSLADES (DYERS AND CLEANERS), LTD., 86, Gloucester Road, Bristol, dyers and cleaners. (C.C., 21/4/28.) £16 11s. 6d. February 18.

STANSFIELD, John, Booth Fold, Waterfoot, Rossendale, chemical manufacturer. (C.C., 21/4/28.) £10 5s. 9d. February 28.

Deed of Arrangement

BOWYER, William Henry, trading as ALKALINE PRODUCTS CO., Cornwall Works, Kennington Green, S.E., alkaline products manufacturer. (D.A., 21/4/28.) Dated April 12, filed April 13. Trustee: G. T. H. Allen, 18, Coleman Street, E.C., C.A. Secured creditors, £168; liabilities unsecured £2,253; assets, less secured claims, £441.

Receiverships

CLIFF DALE BARYTES CO., LTD. (R., 21/4/28.) C. S. Asbury, C.A., of 7, The Square, Shrewsbury, was appointed Receiver on March 31, 1928, under powers contained in debenture dated July 17, 1923.

JOHN MORGAN RICHARDS AND SONS, LTD. (R., 21/4/28.) Sir Gilbert Garnsey, of 3, Frederick's Place, Old Jewry, E.C.2, was appointed Receiver and Manager on April 2, 1928, under powers contained in 1st and 2nd debentures dated May 19, 1925 and December 31, 1926.

Mortgages and Charges

*[NOTE.—The Companies Consolidation Act of 1908 provides that every Mortgage or Charge, as described therein, shall be registered within 21 days after its creation, otherwise it shall be void against the liquidator and any creditor. The Act also provides that every Company shall, in making its Annual Summary, specify the total amount of debts due from the Company in respect of all Mortgages or Charges. The following Mortgages and Charges have been so registered. In each case, the total debt, as specified in the last available Annual Summary, is also given—marked with an *—followed by the date of the Summary, but such total may have been reduced.]*

DAVISON (H.) AND SONS, LTD., Liverpool, paint manufacturers. (M., 21/4/28.) Reg. April 3, £3,000 mortgage, to G. H. Appleton, Ramle, Manor Hill, Birkenhead, J.P.; charged on 17, Hurst Street, and 2 Maghull Street, Liverpool. *——. May 3, 1926.

GILMONT PRODUCTS, LTD., London, E.C., manufacturers of dental cream, etc. (M., 21/4/28.) Reg. April 3, £1,000 debentures, part of £25,000; general charge.

London Gazette, &c.

Company Winding Up Voluntarily

WRAYSBURY CHEMICAL WORKS, LTD. (C.W.U.V., 21/4/28.) By special resolution, March 16, confirmed April 2, G. F. Damer, 14, Old Jewry Chambers, London, appointed as liquidator.

Bankruptcy Information

WHITE, F. L., Empire House, St. Martins-le-Grand, London, E.C., manufacturing chemist. (R.O., 21/4/28.) Receiving order, April 5, creditor's petition. First meeting, April 20, 12 noon, and public examination, May 8, 11 a.m., Bankruptcy Buildings, Carey Street, London, W.C.2.

New Companies Registered

BRITISH COAL PRODUCTS CO. (1928), LTD. Registered April 14. Nom. capital, £100 in £1 shares. To acquire any patents and processes connected with the carbonisation of coal and substances commonly known as bituminous coals, lignite or brown coals, etc. A subscriber: A. Booth, 39, Sundridge Road, Addiscombe.

CARDEN, LTD., Bush House, Aldwych, London, W.C.2. Registered April 10. Nom. capital, £1,000 in 1s. shares. Manufacturers and sellers of chemicals, dyestuffs, compounds, paints, pigments, varnishes, turpentine, oils, colours, lead and other mineral products, etc. Directors: J. C. Carroll, A. O. Denny, and L. F. Crane.

J. H. ISHERWOOD (OILS AND PAINTS), LTD. Registered April 14. Nom. capital, £15,000 in £1 shares. Oil merchants, refiners and mixers, grease manufacturers, tallow refiners, candle makers, oil and colour makers, etc. Directors: E. H. Blincoe, 218, Entwisle Road, Rochdale; A. Fielding, and J. A. Milns.

LEVER BROTHERS (IRELAND), LTD. Registered as a "private" company in Dublin on April 5. Nom. capital, £100,000 in £1 shares. Soap makers, candle makers, seed crushers, etc. A subscriber: C. H. Brenter, Everfingen, Orwell Road, Rathgar, Dublin.

NEW PROCESS DYEING AND CLEANING CO., LTD. 28, Quadrant House, Regent Street, W.1. Registered April 13. Nom. capital, £4,000 in £1 shares. Manufacturers of and dealers in chemicals, dyes, petrol, benzine, benzole and other spirits, etc. Directors: F. C. McDonnell, J. Oakleigh.

SOLIDOL CHEMICAL, LTD., 16, St. Helen's Place, London, E.C.3. Registered as a "public" company on April 11. Nom. capital, £125,000 in 150,000 participating preference shares of 10s. and 1,000,000 ordinary shares of 1s. each. To carry on the business of chemists, druggists, manufacturers and merchants in chemicals and drugs, etc.

THE FINANCE COMPANY OF GREAT BRITAIN AND AMERICA, LTD.—Registered as a "private" company on April 12. Nominal capital, £2,040,000 in 2,000,000 ordinary shares of £1 each and 800,000 deferred shares of 1s. each. To carry on the business of bankers, capitalists, financiers, concessionaires, merchants, company promoters, brokers, agents, prospectors, miners, owners and workers of oil properties, shipowners, etc. Power is also taken to carry on insurance, re-insurance, guarantee, indemnity and bond investment business, other than assurance or re-insurance business within the meaning of Section 1 of the Assurance Companies Act, 1909, as extended by the Industrial Assurance Act, 1923. The first directors (to number not less than two nor more than sixteen) are (*a*) the Right Hon. Sir Alfred Mond, Bart., M.P., (*a*) Sir Harry McGowan, K.B.E., (*b*) Albert H. Wiggin, (*a*) The Most Hon. the Marquess of Reading, G.C.B., K.C.V.O., (*a*) The Right Hon. Lord Colwyn, (*b*) Clarence Graff, (*b*) James H. Gannon, (*a*) Harold J. Mitchell, and (*a*) Henry Mond. Sir Alfred Mond is the first chairman and Sir Harry McGowan is the first deputy chairman, and they may retain those offices so long as they remain respectively the chairman and president and deputy chairman of Imperial Chemical Industries, Ltd. Imperial Chemical Industries, Ltd., may nominate not more than six directors and the Chase Securities Corporation may also nominate not more than six. Directors marked (*a*) above are the first nominees of Imperial Chemical Industries, Ltd., and those marked (*b*) are the first nominees of the Chase Securities Corporation. The directors are to appoint an "American Committee," of not less than six nor more than fourteen persons, who need not be directors or members of the company, all of whom shall be nominated or approved by the Chase Securities Corporation and shall be subject to removal by that Corporation. A director is not required to hold any share qualification. Remuneration of each director, £1,000 each per annum, and each member of the American Committee who is not a director of the company is also to receive £1,000 per annum.